SAMSUNG

High-Resolution Image
Real-time Recording

Digital Video Recorder
SVR-3200/1680/1660/1645/960/945 User Manual

Thank you for choosing Samsung Digital Video Recorder.
Before connecting or operating this product,
please read these instructions carefully and save this manual for future use.

ENGLISH

Introduction

Thank you for choosing Samsung DVR products.
This is the user manual for SVR-3200, SVR-1680, SVR-1660, SVR-1645, SVR-960, SVR-945. Before installing or operating this product, please familiarize yourself with this user manual and other manuals referenced by this manual.
This user manual and the software and hardware described here are protected by the copyright law. Therefore, with the exception of copying for general use within the copyright law, copying and reprinting the user manual, either partially or in its entirety, or translating it into another language without the consent of Samsung Techwin, Inc. is prohibited.
This specification may be changed without prior notice for improvement of product performance.

Product warranty and limits of responsibility

The manufacturer does not assume any other responsibility concerning the sale of this product and does not delegate any right to a third party to take any responsibility on its behalf. Product warranty does not cover cases of accidents, negligence, alteration, misuse or abuse. In addition, no warranty is offered for any attachments or parts not supplied by the manufacturer.
The warranty period for this product will be for 2 years from the date of purchase. The following cases are not covered by the warranty and payment is required for repairs.

- **Malfunction due to negligence in handling by the user**
- **Deliberate disassembly and replacement by the user**
- **Connection of an improper power supply**
- **Malfunction caused by natural disasters (fire, flood, etc.)**
- **Replacement of expendable parts (HDD, FAN, etc.)**

※ Warranty period of HDD and Fan is one year after purchase.

Warranty only refers to the warranty covering products that have been paid for.
After expiration of the warranty period (2 years), examination and repair will be provided for a fee. Even during the warranty period, repair and examination of items outside the preceding warranty scope will require a payment.

This product is not for exclusive use of crime prevention but for assistance unit such as a fire or theft. Therefore, we never take any responsibility for the damage from any incident.

Various experience and technical is needed for installation of this product and an amateur installation might cause fire, electric shock, and defect. All installation operations should be performed by the agency you purchased this product from.

This manual is authored SVR-1680, SVR-1660 according to firmware version 1.0.8, SVR-1645, SVR-960, SVR-945 according to firmware version 1.1.4
Content of this manual can differ by Firmware or Software upgrade, and standard and appearance of product is changeable partly without prior notice to users.

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Chapter 1. Safety Cautions

1.1 Explaining the Symbols

Warning

Refers to information users need to know in order to prevent serious injury or death.

❖ **Before installation**

- ✓ Verify the supplied voltage (AC100V~AC240V) before connecting to the power supply.
- ✓ Make sure the power supply is off before installation.
- ✓ Do not install in a very humid environment. Doing so may cause an electric shock or fire.
- ✓ Make sure ground line is connected to reduce electric shock risk.

❖ **During operation**

- ✓ Do not open the product cover except by qualified personnel or system installer. Opening the product cover may cause an electric shock.
- ✓ Do not plug multiple appliances into a single power outlet. Doing so may cause fire.
- ✓ Do not place dishes holding water or heavy objects on the product. Doing so may cause a malfunction.
- ✓ Do not use in areas where inflammable substances such as propane gas or gasoline or high amount of dust is present. Doing so may cause an explosion or fire.
- ✓ Do not touch the power line with a wet hand. Doing so may cause an electric shock.
- ✓ Do not insert a hand into the opening of the DVD. Doing so may cause an injury.
- ✓ Make sure conductive materials do not enter the cooling ventilator opening.
- ✓ Do not apply excessive force when pulling on the power cord. Damaging the cord may cause an electric shock or fire.
- ✓ Improper replacement of the built-in battery by other types of batteries may cause explosion. The batter must be replaced by the same battery type. Also, expired batteries may cause pollution and must be disposed of with care.
- ✓ Do not place the battery in fire or in extreme heat. Also, do not dissect or disassemble the battery.
- ✓ Recharge the batteries for the remote controller.

❖ **Dismantling and cleaning**

- ✓ Do not dismantle, repair or modify the product deliberately. Doing so may cause a damage, an electric shock or an injury.
- ✓ Do not use water, paint thinner or organic solvent for cleaning the product exterior. Doing so may cause a malfunction or an electric shock. Use a dry cloth to clean the exterior.

Caution

Provides information users need to know in order to prevent minor injury or product damage.

❖ **During installation**

- ✓ For adequate ventilation, install the product with at least 15cm of space between the cooler and the wall surface.
- ✓ To prevent falling, install the product on a flat area . Dropping the product may cause an injury or a malfunction.
- ✓ Avoid areas exposed to direct exposure to sun light or excessive heat since they may cause deformation or a malfunction.
- ✓ If a camera is installed while the DVR is being recorded, image in another channel may be disrupted. Starting the storage after the camera has been installed is recommended.

❖ **During use**

- ✓ Make sure the product is not exposed to concussions or shaking during usage or movement.
- ✓ Do not move, throw or expose to excessive physical concussion during usage.
- ✓ Installing additional unapproved hard disk drives may result in abnormal operation. Inquire at the agency of purchase before installing additional hard disk drives.
- ✓ Product warranty will not cover malfunctions due to additional installation of unapproved hard disk drives.
- ✓ This product is a supplementary rather than primary means for preventing fire and theft. Our company is not responsible for accidents or damage that may occur.

Samsung Techwin cares for the environment at all product manufacturing stages to preserve the environment, and is taking a number of steps to provide customers with more environment-friendly products. The Eco mark represents Samsung Techwin s will to create environment-friendly products, and indicates that the product satisfies the EU RoHS Directive.

FCC Compliance Statement

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which cause the user will be required to correct the interference at his own expense.

Correct Disposal of This Product
(Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems.) This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

Correct Disposal of Batteries in this Product
(Applicable in the European Union and other European countries with separate battery return systems.)

This marking on the battery, manual or packaging indicates that the batteries in this product should not be disposed of with other household waste at the end of their working life. Where marked, the chemical symbols Hg, Cd or Pb indicate that the battery contains mercury, cadmium or lead above the reference levels in EC Directive 2006/66. If batteries are not properly disposed of, these substances can cause harm to human health or the environment. To protect natural resources and to promote material reuse, please separate batteries from other types of waste and recycle them through your local, free battery return system. The rechargeable battery incorporated in this product is not user replaceable.
For information on its replacement, please contact your service provider.

Chapter 2. Summary

This unit is a digital video recording and playback device to record image and video input from 32/16/9 channels to its built-in hard disk. The buttons on the front of the unit as well as the mouse and GUI allow easy setup and operation.
The Samsung SVR series of digital video recorders (DVRs) provide additional safety and security to banks, apartment buildings and complexes, government offices as well as other public, private and commercial facilities. Recorded high-quality video and images are stored on hard disk for later retrieval or playback. Real time functionality delivers users with the ability to simultaneously record multiple channels, playback video, and copy video. A few of the more advanced user-conveniences include motion detection, Pan/Tilt/Zoom controls (PTZ), password protection, real time audio recording, event lists, and log files.

2.1 Features

Monitoring Screen

The monitoring screen supports vivid, high-definition live visual feed from each channel and provides multiple screens.

- Real-time MPEG-4 visual output (480 frames)

  Multiple split-screen monitoring modes

  SVR-3200/1680/1660/1645: Single, 4, 9, 10, 16

  SVR-960/945: Single, 4, 9

- Automatic Screen Switching (AUTO)

- Supports various monitor output modes

  SVR-3200 : 4 Composite , 2 VGA
  SVR-3200/1680 : 4 Composite, 1 VA
  SVR-1660/1645/960/945 : 2 Composite, 1 VGA

- Pan/Tilt, Digital Zoom, PIP (Picture-In-Picture)

  The PIP function will be available with a firmware upgrade in the future.

Audio Recording

This feature supports real-time audio input and recording.

- Simultaneous recording of 16/9 channels audio input in real time

  SVR-3200/1680/1600/1645 : Input - 16 channels (4 RCA in rear, 12 D-SUB)

  Output - 1 in rear

  SVR-960/945 : 9 channels (4 RCA in rear, 5 D-SUB), Output - 1 in rear

- Supports simultaneous recording and playback

Video Recording

The product is capable of storing visual image data as high resolution MPEG-4 files with up to 480 frames per second, as well as pre-emptively initiating recording sequence up to five seconds prior to an event. Also, the COVERT feature (concealment of visual data) is implemented to protect the user's privacy.

- High quality real-time MPEG-4 recording
- Three screen resolution levels for improved control over data size
- Multi-recording function for manual and schedule events
- Simultaneous recording/playback/backup/networking operation capacity
- Easily accessible options for channel-specific resolution and motion detection ranges
- Per-second frame rates (up to 30 frames per channel) are user customizable

  SVR-3200 : Half D1 (704x240) 960fps

  SVR-1680 : D1 (704x480) 480fps

  SVR-1660/1645 : CIF (352x240) 480fps

  SVR-960/945 : CIF (352x240) 270fps

- Manual and schedule recording function

- ❖ Video loss detection function
- ❖ Event (Sensor, D-I/O, Video loss, Motion detection, Text) log
- ❖ Each channels can support pre-emptive recording sequences up to 5 seconds prior to an actual event

Search/Playback

Various search and playback options are offered for the user's convenience.

- ❖ Playback by time, date and channel
- ❖ Mouse interface increases data searchability
- ❖ Forward/backward search functions in pause
- ❖ Playback by event (Sensor, Video loss, Motion detection and Text) log
- ❖ Remote controller and Jog/Shuttle function further improve searching

  (The SVR-960/945 models do not support Jog/Shuttle.).
- ❖ Full-frame playback (available in SVR-3200/1680/1660 only)

Data Storage

A hard disk is included in the product for the purpose of data storage. If the user desires, the recorded data can be stored to DVD-R, CD-R or USB.

- ❖ A built-in hard disk has been provided as a basic supply item
- ❖ Multiple portable data storage media are supported: DVD-R, CD-R and USB

  ※ Refer to the appendix on the back of the manual regarding the type of compatible media.
- ❖ Hard disk expansion device(External recording device) : SVS-5E (Option as exclusive device) External hard disk expansion is supported with SVS-5E (Available for purchase)

Networking

The product supports LAN, xDSL and such networking capabilities. Combined with the PC interface client, the core features of the device can be easily controlled from a distance.

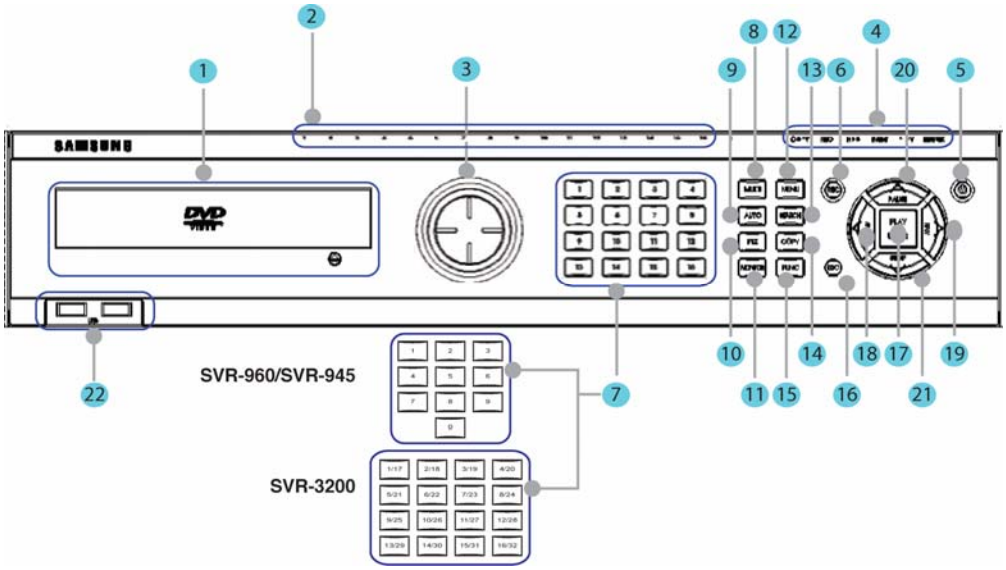
- E-mails can be sent via TCP/IP or DHCP upon an event trigger
- Remote live visual feed (Single or 4 Partition)
- PC playback, storage, search and DVR control functions via Network Viewer
- Remote recording, search and playback scheduling functions
- Support 10/100Mbps Ethernet/xDSL
- Multiple DVR connection

Others

- User-friendly GUI and mouse interface
- Simplified firmware upgrades with USB
- Visual data recording and backup to USB
- Supports PTZ control (SPEED DOME) and PRESET function
- Multilingual support : Korean, English, Italian, Spanish, Japanese, etc.
- Single remote controller to control 16 DVRs

Chapter 3. Product Description

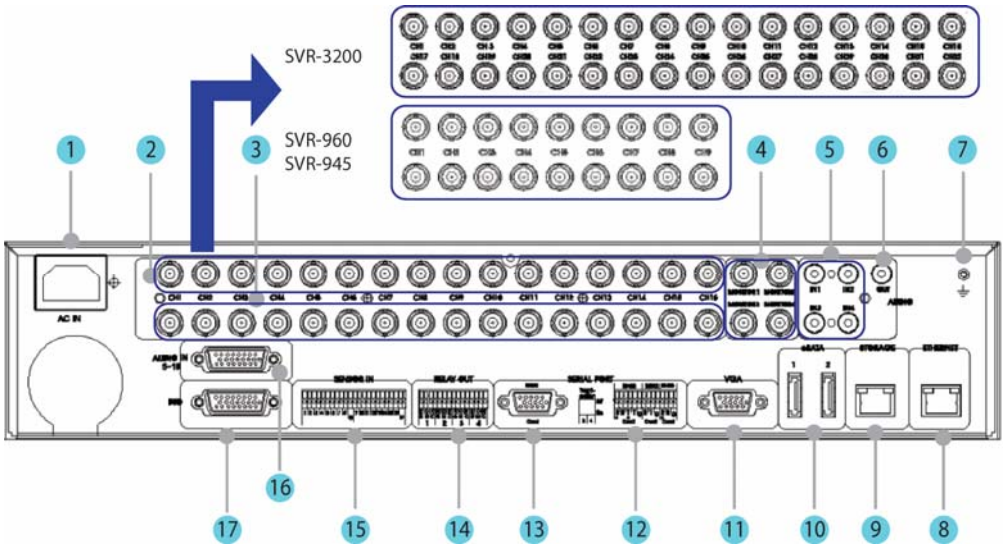
3.1 Front part



No.	Classification	Function
1	DVD-Multi for copying	For copying recorded video and images to DVD/CD optical media. (Exception: The SVR-945 uses an external copy device.)
2	Channel LED	Shows the data input and event operation status
3	JOG/SHUTTLE	Jog can adjust setting values, control the STEP function, navigate through the menu, and adjust the playback speed and direction. Shuttle controls PTZ. (The SVR-960/945 does not support Jog/Shuttle.)
4	REC lamp	Lit when recording.
	HDD lamp	Lit when HDD is working.
	NETWORK lamp	Lit when network is connected.
	EVENT lamp	Lit when an event is detected.
	COPY lamp	Indicates copying operation.
	PLAY lamp	Lit when copying..
5	Power button	Turns on or off the device.
6	REC button	Starts or stops manual recording
7	Channel button	Selects channel in live feed or playback
8	MULTI	Changes split-screen sections for live video feeds or playback.

9	AUTO	Starts or stops user defined sequences.
10	PTZ	Starts or ends PTZ function.
11	MONITOR	SVR-3200/1680 : Cycles through from Monitor 1 to 4. SVR-1660/1645/960/945 : Switches from main and sub monitor
12	MENU	Navigates into the Menu.
13	SEARCH	Starts Search mode.
14	COPY	Starts Copy mode.
15	FUNC	Starts Function mode.
16	ESC button	The Escape button navigates up the menu tree and closes dialog windows.
17	PLAY/ENTER	Start playback or select an item on the menu.
18	◀/REW	Navigates or selects in the menu, or for playback, changes the reverse playback speed.
19	▶/FFW	Navigates or selects in the menu, or for playback, changes the forward playback speed.
20	▲/PAUSE	Navigates or selects in the menu, or for playback, pauses live or recorded video.
21	▼/STOP	Navigates or selects in the menu, or for playback, stops playback.
22	USB1, USB2	USB ports for external devices (mouse, USB memory stick).

3.2 Rear Part



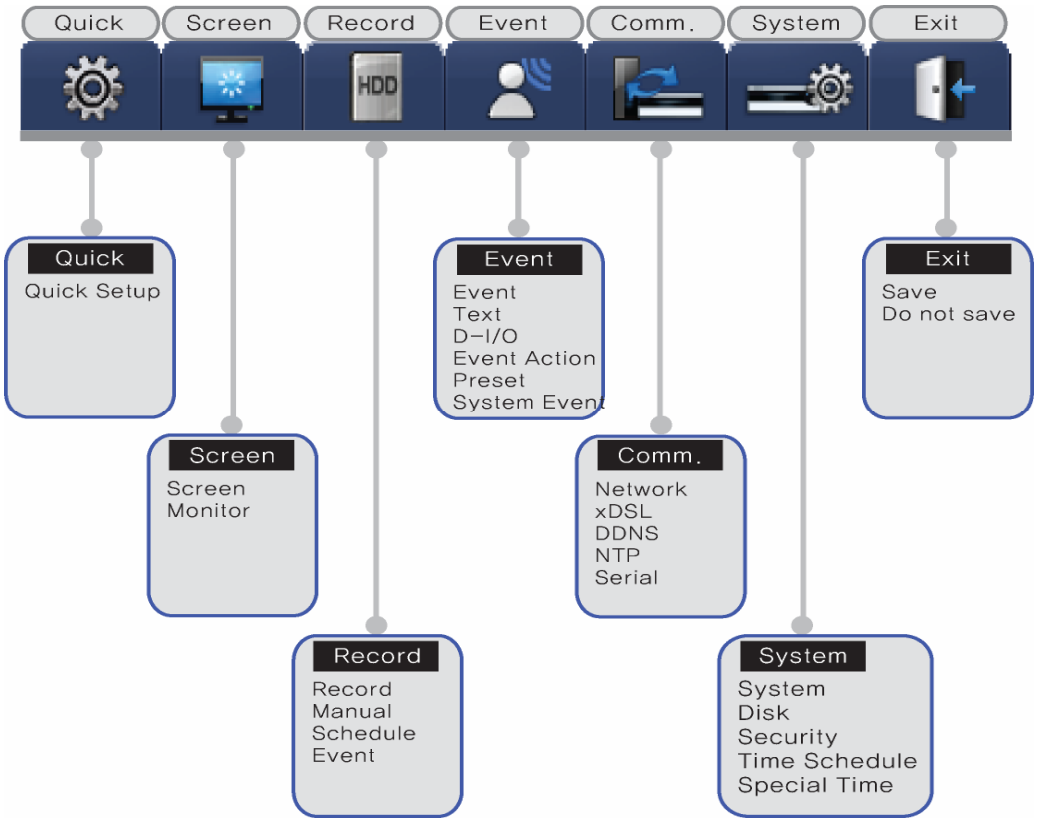
No.	Input/Output terminal name	Function
1	POWER IN	Socket for AC 100V ~ AC 240V power cord.
2	CH1 ~ 32 (16/9)	Connection terminal for camera BNC input. SVR-3200: 32 ea., SVR-960/945: 9 ea.
3	LOOP OUT	Connection terminal for camera BNC output (loop).
4	MONITOR 1 ~ 4	Connection terminal for monitor BNC output. SVR-1660/1645/960/945: 1 ~ 2 ea.
5	AUDIO IN(RCA)	RCA audio jack for RCA input.
6	AUDIO OUT	Audio jack for speaker output.
7	GROUND	Ground terminal between DVR and external device.
8	ETHERNET	Ethernet port for network connections (RJ-45).
9	STORAGE	External storage connection port (Function not supported in the current version). Only available in the SVR-3200/1680/1660 models.
10	eSATA	Connection terminal for external eSATA HDD or HDD for backups.
11	VGA OUTPUT	Output port for PC monitor.
12	Serial Port (Terminal Block) RS-232C/485/422	Connection terminal for expanded controller, speed dome camera, etc.

No.	Input/Output terminal name	Function
13	Serial Port (Terminal Block)	RS-232C D-SUB connector.
14	RELAY OUT	Connection terminal for relay output.
15	SENSOR IN	Connection terminal for sensor input.
16	AUDIO IN(D-SUB)	Connection terminal for audio output D-SUB.
17	D-I/O	Connection terminal for DIGITAL IN/OUT.

Refer to detailed description for installation & use from "Install Manual".

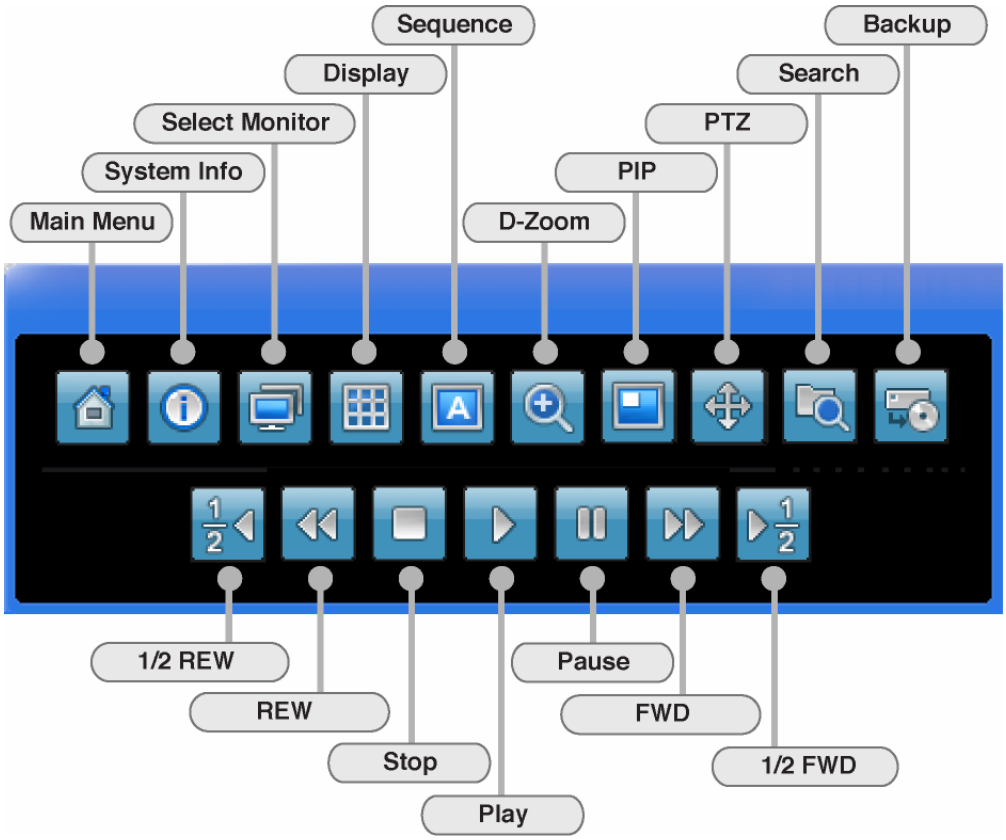
3.3 OSD MENU structure

The menu structure is as shown below. For detailed instructions for configuration, please refer to Chapter 4, 5 and 6.



3.4 Function Menu

The function menu allows the users to access any and all functions and operations of the product with the mouse. To execute a particular function, left-click the icon. Also, all functions listed in the function menu can be executed in full-screen mode. The function menu structure is as shown below.



3.5 Factory setting

To restore factory setting, go to System -> System -> Restore Factory Setting. A pop-up window saying "Warning : The system will be reset. Continue with restoring factory default?" will appear. Select "Yes" and press Enter to restore factory default.

Factory Default

Quick Setup			
	Schedule Recording		No Rec.
	Speed		1 fps
	Quality		Q1

		Resolution		CIF
		Time		UTC 00:00 Dublin
				Off
				MM/DD/YYYY
				Current Time
		Language		English
Screen Setup				
	Screen	Channel Number		Ch 1
		Title		Cam 1
		Activity		On
		Color		Color
		AGC		Enabled
		Brightness		0
		Contrast		0
		PTZ	PTZ Home	Off
			PTZ Idle Time	5
			PTZ Port	None
			Address	0
	Monitor	Monitor Number		Main Monitor (Monitor 1)
		Switch to Event Screen		Off
		Covert Channel		All Uncheck
		User Sequence		All Not Set
		SEQ. Dwell Time		5 sec.
		Multi Mode	4E	Ch 1,3,5,7
		VGA Mode		800x600@56Hz
		Info Level		Uncheck remote controller ID
Record Setup				
	Record	Audio Channel		Ch 1
		Recording		Off
		Gain		0
		Sync Video Channel		Ch 1
		Audio Mix		Mix On
		Record No Video		Off
	Manual	Channel Number		All

		Macro		Disabled
		Speed		1 fps
		Quality		Q1
		Resolution		CIF
		Pre Event		1
		Post Event		1
	Schedule	Channel Number		All
		Schedule		Full Time
		Macro		No Rec.
		Speed		1/0.75 fps
		Quality		Q1
		Resolution		CIF
		Special Time		No Rec.
		Event Recording		Off
	Event	Channel Number		
		Type	Sensor	Off
			MD	Off
			Text	Off
		Macro		Standard
		Speed		8 fps
		Quality		Q3
		Resolution		CIF
		Pre-Event		1
		Post-Event		5
Event Setup				
	Event	Sensor		All N.O
		MD		All
			Sensitivity	1
			Area	Set All
	Text	Recording		Off
		Sync Text With		Ch 1
		Device		Manual
		Seek Header		Off
		Header 1		Header1
		Header 2		Header2
		Delimiter		0D0A

		Timeout (ms)		1000
		Lines		20
	D-I/O	Select D-I/O		Output
		Output Type		Sensor
	Event Action	Select Action		R1
		Action Duration		10
		Action Source		Full Time, Uncheck All
		Event Acton in Special Time		Full Time, Disable
	Preset	Channel Number		Ch 1
		Preset		Sensor1, Not Set
	System Event	System Event Source		Uncheck All
		System Event Method		Uncheck All
Communication				
	Network	Type		Ethernet
		DHCP		Off
		IP addr		Current IP
		Net Mask		Current NM
		Gateway		Current GW
		DNS1		0.0.0.0
		Additional DNS		0.0.0.0
		Port		4000
		Band Width Limit(Mbps)		0.0
	xDSL	User ID		guest
		Password		*****
		Status		Disconnected
	DDNS	Interval		Off
		Server		www.samsungipolis.com
		ID		None
		Password		None
		Status		Not registered
	NTP	Sync With NTP		Off
		NTP Mode		Client

		NTP Server Loc.		Public
		NTP Local Server IP		0.0.0.0
		Interval		1 (Hour)
	Serial	Serial Number		Com1
		Device		None
		Interface		RS232
		Baud Rate		9600
		Parity Bit		None
		Stop Bit		1
		Data Bit		8
System Setup				
	System	Remote Controller ID		Off
		DVR ID		1
		DVR Alias		DVR0
		Playback Deinterlace		On
		Language		English
		Firmware Update		>>
		Load/Save Configuration		>>
		Default		>>
		System Log		>>
	Disk	Repeat Record Mode		On
		Warning Lever		45(%)
		Block Playback		No Block
		Disk Manager		>>
		Disk Status		>>
	Security	User Password		Off
		Password		****
		Re-Enter		****
		Admin Password		Off
		Password		****
		Re-Enter		****

		Remote Setup		Enable
		Remote Relay		Enable
	Time Schedule	Weekday Start		Mon
		Weekday End		Fri
		Day Start		09:00
		Day End		18:00
	Special Time	Zone 1		00:00 – 00:00
		Zone 2		00:00 – 00:00
		Zone 3		00:00 – 00:00
		Zone 4		00:00 – 00:00
		Exception Days		>>
Save				
		Save		>>
		Do not save		>>

Chapter 4. Monitoring

When turned on, the DVR will display visual data from all analog channels on the screen in its monitoring mode. This chapter explains how to use all monitoring modes offered by the DVR.

4.1 Main Screen

- The DVR will turn on when connected with an adequate power source.
- All LEDs will turn on and off during the bootup process.
- After bootup, the screen will be displayed in the 16 partition mode. (SVR-960/945 : 9 partition)

※ If passworded, a login window will appear.

4.2 Single image in full screen

- Press the desired channel button or left-click the desired channel partition.
- Press [MULTI] button or left-click again to return to the partition screen.

4.3 Multi Screen

- To see several channels simultaneously, press [MULTI] button or left-click Division Mode in the function menu and select the desired partition mode.
- Pressing [MULTI] will cycle the partition mode (4A, 4B, 4C, 4E, 9A, 9B, 10A, 16). SVR-960/945 support 4A, 4B, 4C, 4E, 9A and 9B partition modes.

4.4 User Sequence

Once all slots in the user sequence option has been filled or the desires channels have been selected, press [AUTO] button on the front side or click in the function menu. To end user sequence, press [AUTO] button on the front side or click in the function menu again.

If the user sequence has not been set up, pressing [AUTO] button will not initiate a user sequence.

4.4.1 Basic System Mode

- Pressing the [AUTO] button or clicking in the function menu will cause the DVR to cycle through the set channels.
- Press [MENU] button or click in the function menu to set up sequence period.
- Go to "Screen Setup" from OSD menu.
- Go to "Monitor" under "Screen Setup", and press [ENTER] button or left-click.
- Select "SEQ. Dwell Time" and assign the desired value ranging from 1 to 60. When set to Off, user sequence view function will not operate.

- User sequence mode can be accessed by pressing [AUTO] button from every partition mode.
- Press [AUTO] button once again to exit from user sequence mode.

4.4.2 User Sequence Mode

- Press [AUTO] button or click from the function menu.
- To activate user sequence, set "Monitor" to User Sequence in the OSD menu.

1. User sequence can define up to 16 channels.

2. The example shown above has defined 6 sequences in the following order: Single (1) → Full (16DIV) → 4 Partition (4A) → Single (5) → Single (6) → 9 Partition (9A). SVR-960/945 support only up to 9 partition.

4.5 Event Screen

- A screen may be set to pop up automatically in case of an event trigger.
- The pop-up screen's frequency setting may be set in "Switch to Event Screen" under "Monitor".
- In cases of multiple event triggers in multiple channels, the partition mode determined by the number of such channels will be used to display them. For example, if events were triggered in three separate channels, they will be displayed in the 4 partition mode. To return to original partition mode, click one of the event screens.

1. If Switch to Event Screen is set to Off, the Event pop-up function will not .

2. If Switch to Event Screen is set to Keep, the pop-up screen will be displayed until a button press. To return to the previous screen, press any button.

4.6 Screen Zoom

- In single full-screen mode, press [FUNC] button, click , click + and press Enter or left-click to zoom in on the visual.
- When is clicked, the screen will zoom in on the center. The zoom area can move from left to right in 18 steps and from up to bottom in 12 steps.
- Use direction keys to move the zoom area.
- To return to the previous screen, press Enter or left-click the background.

4.7 Pause Live screen

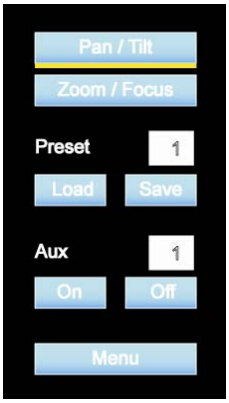
- Both live visual feed and data playback can be paused momentarily.
- Press [PAUSE] to pause visual feed. Press [PAUSE] button again to return to visual feed.

4.8 PTZ Control

If a PTZ controller has been connected to the DVR and the necessary protocols have been set in "Serial" menu, real-time manipulation of PTZ becomes enabled.

To access PTZ functions, press [PTZ] button on the front side of the console or press [FUNC] button to cycle through available functions.

The following PTZ controllers are supported:



PTZ, Keyboard Compatible List

모델명	제조사
SDZ160/330, Samsung SPD Keyboard SCC3000, Samsung SRX-100B	SAMSUNG TECHWIN
BOSCH AutoDome, TC8560X-4	BOSCH
PELCO(P), PELCO(D)	PELCO

Honeywell 755/655, HRX-2000, ScanDome2	HONEYWELL
Sony EVI-D3x	SONY
VT VPT-4x	VT
AD SpeedDome	AD
SungJin SJ372R1'	SUNGJIN
Samsung SCC641	SAMSUNG ELECTRONICS
Panasonic WV-CS850	PANASONIC
LG GAC-PT2	LG
Keyboard KBD300A, WGI SPD1800/2600	WEBGATE Inc.
Merit-Lilin FastDome	MERIT
Elmo PTC200C	ELMO
Canon VC-C4	CANON
HTC-230S	D-MAX
RVision	RVISION
Elbex	ELBEX
VIDO	VIDO
VICON	VICON
Hunt	HUNT
ORX-1000	SYSMANIA
Fine CRR-1600	LIVEI
Tokina	TOKINA
Kodicom KRE	KODICOM
Nuvico	NUVICO

- Go to the channel that needs to be manipulated.
- Press [PTZ] button or click in the function with the mouse.
- PTZ menu (Pan/Tilt, Zoom/Focus, Load Preset, Save Preset) will appear
- Select the menu option to be edited and press [ENTER] or left-click.

4.8.1 Pan/Tilt

Used to utilize panning and tilting simultaneously with real-time feed.

- Select Pan/Tilt from PTZ mode.
- Use the left/right direction buttons on the front side of the console or click left/right on the screen to pan. Use the up/down direction buttons or click up/down on the screen to tilt.

4.8.2 Zoom/Focus

Used to utilize zooming and focusing simultaneously with real-time feed.

- Select Zoom/Focus from PTZ mode.
- Use the direction buttons on the front side of the console or the mouse wheel to zoom and focus.

4.8.3 Load Preset

Used to switch to a preset position from real-time monitoring mode.

- Select the desired Preset setting using the up/down buttons or the mouse wheel.
- Once a preset mode has been selected, select Load and press [ENTER] or left-click to load.
-

4.8.4 Save Preset

Used to set a new preset position from real-time monitoring mode.

- Move the camera to the desired position using the 'Pan/Tilt' and 'Zoom/Focus' menu.
- Select the desired Preset setting slot using the up/down buttons or the mouse wheel.
- Once selected, select Save and press [ENTER] or left-click to save.

4.8.5 Auxiliary On

Used to activate special PTZ device functions from real-time monitoring mode

- Select the desired Aux option using the up/down direction buttons or the mouse wheel.
- Select On and press [ENTER] or left-click to activate.
- (Total 16 Aux functions are available.)

4.8.6 Auxiliary Off

Used to deactivate special PTZ device functions from real-time monitoring mode.

- Select the desired Aux option using the up/down direction buttons or the mouse wheel.
- Select Off and press [ENTER] or left-click to deactivate.

4.8.7 Menu

Use when entering console menu of connected PTZ device., With front direction button(UP/Down/Left/Right) and Enter button , user can configure and after the configuration, push ESC button or "PTZ" button of the front to be out of menu(But, it can be available only with Samsung SPD protocol)

4.9 Screen Lock

This function is implemented to prevent unauthorized users from manipulating the settings.

To use this function, the user password must be set. (To create a user password, an administrator password is required.) If the [ESC] button is held for three seconds, a message

saying "Screen Locked" will appear and lock the screen. If the user password is set to "Off", then a message saying "Enable user passwords first" will appear instead.

Screen Lock will block all button inputs; it must be disabled first to activate other functions. Pressing any button in Screen Lock mode will prompt a user password screen. The corresponding passwords will deactivate Screen Lock.

Chapter 5. Playback

5.1 Playback

5.1.1 Playback with Main Screen (16/9 division screen)

- Press [PLAY] button or click in the function menu with the mouse from the monitoring mode.
- Pressing [PLAY] or [FWD] will play the recorded data at 1x speed (default value).
- Pressing [REW] will play the recorded data in the reverse direction at 1x speed (default value).

Playing visual data in nine channels will limit the frame rate to 2 fps. Therefore, the total frame rate of the nine channels will add up to 18 fps. With a single channel, the frame rate will be limited to 30 fps.

Pressing [PLAY] from a monitor partition mode will play the data from 16 or 9 channels.

5.1.2 Playback Functions

PLAY : Plays the data at 1x speed. Press [PLAY] or click in the function menu.

Pressing [PLAY] from the monitoring mode will always prompt multi playback mode. Also, pressing [PLAY] to play the recording from the last time a playback has been viewed.

PAUSE : Pauses the playback. Press [PAUSE] or click in the function menu.

STOP : Stops the playback. Press [STOP] or click in the function menu.

FWD : Press [FWD] to modify playback speed (x2, x4, x8, x16, x32, x64, x1/2, x1, x2, x4, …). Pressing [FWD] during a live visual feed will play the recording from 1 minute ago. Clicking in the function

menu will also work.

REW : Press [REW] to modify playback speed in the reverse direction. (x2, x4, x8, x16, x32, x64, x1/2, x1, x2, x4, …)
Pressing [REW] during a live visual feed will play the recording beginning from that moment in the reverse direction. Clicking in the function menu will also work.

STEP FORWARD : Pressing [PAUSE] and [FWD] during a playback will display the frame next to the current screen. To return to regular playback mode, press [PLAY].

STEP REWIND : Pressing [PAUSE] and [REW] during a playback will display the frame before the current screen. To return to regular playback mode, press [PLAY].

1/2 REWIND : Click in the function menu to play data at x1/2 speed in the forward direction.

1/2 FORWARD : Click in the function menu to play data at x1/2 speed in the backward direction.

5.2 Search

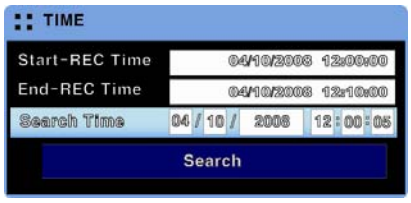
This menu is used to search data by time or event log and play them.

Four options are provided in the Search menu: Time, Calendar, Event and Thumbnail.

Press [SEARCH] button on the front side of the console or click in the function menu to enter Search mode.

5.2.1 Time Search

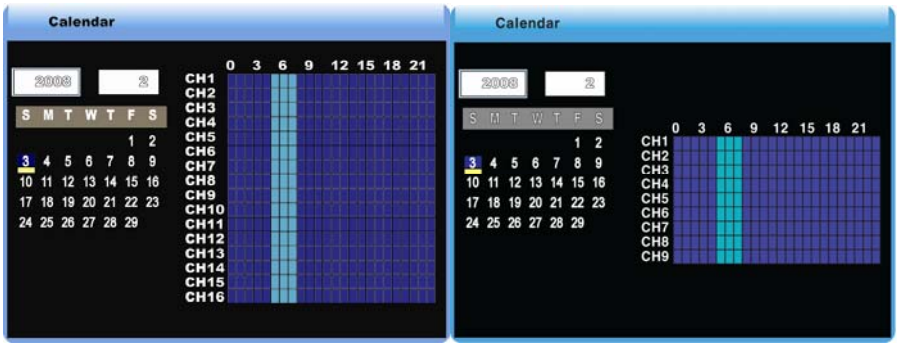
Input the data and time to search by and select Search to move the visual data to the specified moment.



Start-REC Time : Displays the beginning of the recording.
End-REC Time : Displays the ending of the recording.
Search Time : Input the date and time to be searched.
Search : Executes the search function.

5.2.2 Calendar Search

Use the calendar to simplify the searching process.



〈SVR-1680/1660/1645〉 〈SVR-960/945〉

SVR-3200 will display the storage status of the first 16 channels on Monitor1 and the remaining 16 in Monitor2.

Year : Select the year to be searched from with the mouse wheel.
Month : Select the month to be searched from with the mouse wheel.
Selecting Date : From the calendar, select the day to be searched from and press [ENTER]. When using mouse, the time range can be selected with the mouse wheel.
Selecting Time : Select the recorded time range and press [ENTER] to play the recording. When using mouse, the recording will play once the time range has been set.

5.2.3 Event Search

Once a time range has been set, various search parameters (All Channels, Channel, All Events, Motion Detection, Sensor) can be used to specify search. Press the directional buttons on the front side of the console to select the date and time. When using mouse, click the parameter to be adjusted and use the mouse wheel. Search results will be displayed as a separate list in the Event Search window. Select the desired data from the list and press [ENTER] or use the mouse wheel to move to a specific time range and play the data.

Start-REC Time : Displays the beginning of the recording.

End-REC Time : Displays the ending of the recording.

Search Start Time : Input the starting date and time to search from. Use the directional buttons to move to the parameter to adjust and press up/down. When using mouse, click the parameter and use the wheel to adjust date and time.

Search End Time : Input the ending date and time to search from. Use the directional buttons to move to the parameter to adjust and press up/down. When using mouse, click the parameter and use the wheel to adjust date and time.

Event Channel : Select the channels to search from.
SVR-3200 : ch1 - ch32
SVR-1680/1660/1645 : Ch1 - Ch16
SVR-960/945 : ch1 - ch9

Event Type : Select the event types to be searched from.
The available options are: All, MD, Sensor and V-Loss

5.2.4 Thumbnail Search

Select a thumbnail from a specific time frame with the up/down buttons on the front side of the console or the mouse wheel. The search result will display in the thumbnail format. Clicking a thumbnail will play the recording from the date and time associated with it.

Channel : Select the channel to be searched from. Once selected, use the up/down buttons or the mouse wheel to adjust.

Start Time : Input the starting date and time to search from. Once selected, use the left/right buttons to adjust and press [ENTER]. Use the up/down buttons or the mouse wheel to change the values.

Interval : Select the time interval to divide and create thumbnails by. Use the up/down buttons or the mouse wheel to change the value.

Image view : Selecting "Search" will produce 16 thumbnails starting from the starting date and time according to the interval period. To return to the previous screen, press [FUNC] on the front side of the console or use the mouse wheel.

Image Selection : Clicking a search result thumbnail play the data with date and time associated with it. Press [ENTER] or left-click to start playback.

5.3 Copy

Use this menu to copy recorded data. There are three options for copying: CD/DVD, RE4 and AVI.

To enter the copy menu, press [COPY] on the front side of the console or click in the function menu.

5.3.1 CD/DVD

This function copies CDs and DVDs and also automatically searches the media.

Since SVR-945 does not have a built-in DVD-R, please connect an external backup device. Connect the device to a USB or eSATA port, enter the copy menu and select the CD/DVD. A CD/DVD with a [Ext] tag will appear in the media list. Select the device and proceed just as other devices.

Type : Select the CD/DVD device using the up/down buttons on the front side of the console or the mouse wheel.

Channel : Select one or all 16 channels. Once the entry has been selected, use the up/down buttons or the mouse wheel to adjust.

From : Input the beginning date and time of the recording. Use the up/down buttons on the front side of the console or the mouse wheel to adjust.

To : Input the ending date and time of the recording. Use the up/down buttons on the front side of the console or the mouse wheel to adjust.

Selecting Disk : Select the medium to copy. Press [ENTER] on Select Disk to select the medium.

Start : Start copying. Press [ENTER] or left-click to start.

FAT32 Format : Format USB disks and HDDs as FAT32.
This function does not apply to CDs or DVDs. To use formattable media before usage, select FAT32 Format by pressing [ENTER] or left-clicking the button.

The supported media for the copying function is as below.

	Manufacturer		Manufacturer
DVD-R	Imation(Exhortation 16X) Sony(Exhortation 16X) Mitsubishi(Exhortation 16X) TDK(Exhortation 16X)	CD-R	Imation(Exhortation 16X) Sony(Exhortation 16X) Mitsubishi(Exhortation 16X) TDK(Exhortation 16X)

5.3.2 RE4

The recorded data can be copied to HDDs and USB memory sticks. The copied data can be accessed with Mini-Players and Network Mangers. Select the channel and press [ENTER] or left-click to prompt a channel list as shown below.

[SVR-960/945] [SVR-1680/1660/1645] [SVR-3200]

메모 [kdh1]: 국문에 따라 이미지 추가 필요

Type : Select the RE4 using the up/down buttons or the mouse wheel.

Channel List : To pop up the channel list, press [ENTER] on or left-click the window background.

Selecting Channel : Select one or all 16 channels. Once the entry has been selected, use the up/down buttons or the mouse wheel to adjust.

From : Input the beginning date and time of the recording. Use the up/down

buttons on the front side of the console or the mouse wheel to adjust.

To : Input the ending date and time of the recording. Use the up/down buttons on the front side of the console or the mouse wheel to adjust.

Select Disk : Select the medium to copy. Press [ENTER] on Select Disk to select the medium.

Start : Start copying. Press [ENTER] or left-click to start copying.

FAT32 Format : Format unformatted USB memory devices and HDDs as FAT32. Press [ENTER] or left-click to start formatting.

Incompletely copied data may fail to play correctly on PC.

5.3.3 AVI

This function copies a section of a channel and uses USB memories and HDDs.

Type : Select "AVI" using the up/down buttons or the mouse wheel.

Channel : Select the channel to be copied using the up/down buttons or the mouse wheel.

From : Input the beginning date and time of the recording. Use the left/right buttons to move between parameters. Use the up/down buttons or the mouse wheel to adjust date and time.

Duration : Input the duration of the copied data. A section of data with the duration beginning from the date and time specified by From will be copied. Use the up/down buttons or the mouse wheel to adjust file duration.

Select Disk : Select the medium to copy. Press [ENTER] on Select Disk to select the medium.

Start : Start copying. Press [ENTER] or left-click to start copying.

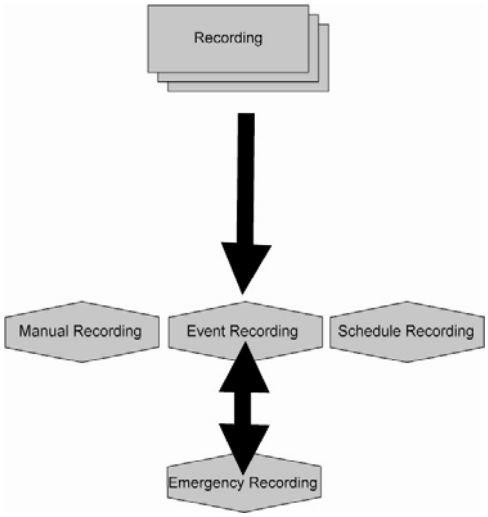
FAT32 Format : Format unformatted USB memory devices and HDDs as FAT32. Press [ENTER] or left-click to start formatting.

If the PC fails to play the file, please install the latest integrated codec pack and try again.

Chapter 6. Configuration

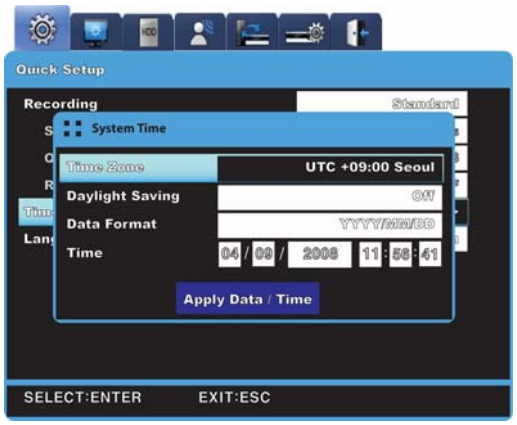
6.1 Record Setup

The DVR offers four recording modes and their setting structure can be seen in the diagram shown below. Refer to their individual entries for detailed explanation.



6.2 System Time Setup

Before recording, the system time must be set up.



It is critical that the system time is synchronized with the local time, as it may affect data preservation. It is not recommended to change the system time during a recording operation. The default time zone for the product is "UTC 00:00 Dublin".

6.2.1 Configuring System Time

Changing the system time after files have been recorded and saved will affect the time data of the recordings. Therefore, it is recommended that important visual data are copied before any changes to the system time.

- Press [MENU] on the front side of the console or click in the function menu.
- Go to "Quick Setup".
- Select "System Time" of "Quick Setup" with [ENTER] or left-click.
- If the instructions have been followed correctly, a window similar to the sample used in **6.2 System Time Setup** will appear.
- To move to lower level entries, use the directional buttons or the mouse to select them and press [ENTER] or left-click.

Time Zone

Select time zone using the directional buttons on the front side of the console or the mouse wheel. The menu will cycle through the time zones. (To return to the previous menu, press [ESC] on the front side of the console or right-click. This method will apply the same throughout the OSD menus.)

Daylight Saving Time

The system time zone will determine this menu. In other words, this option will only be enabled if the selected time zone uses DST. The product has been programmed to synchronize DST settings with Microsoft Windows. This menu is offered to allow the user to disable DST.

For detailed information on NTP, please refer to "NTP" under Network Setup.

Date Format

Select the time presentation format. Choose the desired format among "MM/DD/YYYY", "YYYY/MM/DD" and "DD/MM/YYYY" using the directional buttons or the mouse wheel.

Date/Time

Use the left/right buttons to move between Year, Month, Date and Time. Use the up/down buttons or the mouse wheel to adjust.

Apply Date/Time

To apply changes to these menus, "Apply" must be selected. Selecting the button will pop up a

dialogue window as shown below.

All setups beside Date and Time will automatically be applied once the menu window is closed. However, as changes in Date and Time may cause critical damages to the HDD file storage system, changes in this menu will not be automatically applied. To apply the changes, Apply button must be selected.

6.3 Camera Setup

This menu is used to configure the cameras connected to the product. With the Camera Setup menu, [Name], [Status], [Color/BW], [Auto Control], [Brightness], [Contrast] and [Partial PTZ] settings can be configured. For detailed information on each of the settings, please refer to the items below.

The product is not able to use both NTSC and PAL at once. For example, it is not possible to use NTSC cameras for channels 1 to 5 and PAL cameras for channels 6 to 16. Also, when switching from NTSC to PAL, the product must be rebooted for it to recognize the new cameras correctly.

The configured values will also apply to Monitoring and Search as well.

6.3.1 Configuring Camera Setup

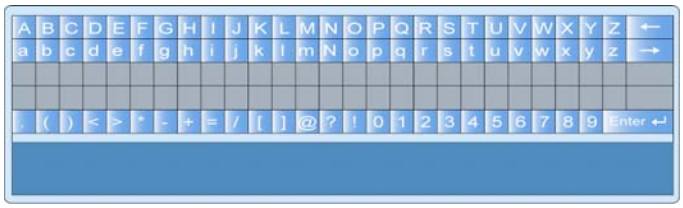
After pressing [MENU], use the directional buttons or the mouse wheel to go to "Channel" menu under "Screen" menu and select the channel to be configured.

6.3.1.1 Title

The camera's name can be configured.

Pressing [ENTER] or left-clicking will pop up the text input window.

The text input window may differ from menu to menu; however, the configuration method is same throughout.



- Use the directional buttons to navigate through the characters.
- When using mouse, left-click the characters.
- Select the desired character with the directional buttons.
- Once selected, press [ENTER] to input the character.
- To delete an input character, press [🡐] to move back.
- Press [🡒] to place a space between characters.

6.3.1.2 Channel Usage

Camera usage may be set to either On or Off.

After pressing [ENTER], use the left/right buttons or the mouse wheel to choose between On and Off.

To improve recording and network monitoring speed, set unused channels to Off.

6.3.1.3 Color

After pressing [ENTER], use the left/right buttons or the mouse wheel to choose between "Color" and "BW".

6.3.1.4 AGC (Auto Gain Control)

The AGC is a function which automatically adjusts the input range of video signals from the cameras.

It sets "Enable/Disable" using left/right button or mouse wheel after pressing [ENTER].

6.3.1.5 Brightness / Contrast

It can control Brightness & Contrast of image.

After pressing [ENTER], press the left/right buttons or the mouse wheel to choose between "On" and "Off".

6.3.1.6 PTZ

This option configures settings regarding the PTZ device, including PTZ Home, Idle Time, Port and Address.

6.3.1.6.1 PTZ Home / PTZ Idle Time

This menu is only relevant for cameras supporting the PTZ (Pan/Tilt/Zoom) feature. When enabled, the camera will return to its preset home position after a period of PTZ idle time.

After pressing [ENTER], use the left/right buttons or the mouse wheel to select the home preset position and idle time duration.

6.3.1.6.2 PTZ Port

This menu is only relevant for cameras supporting the PTZ (Pan/Tilt/Zoom) feature.

After pressing [ENTER], use the left/right buttons or the mouse wheel to select the PTZ port of the channel.

6.3.1.6.3 Address

This menu is only relevant for cameras supporting the PTZ (Pan/Tilt/Zoom) feature. After pressing [ENTER], use the up/down buttons or the mouse wheel to configure the base address of the PTZ device.

For detailed information on PTZ cameras supported by the product and their advanced configuration settings, please refer to the relevant list under "7.4.9 PTZ Usage".

6.4 Quick Recording Setup (Quick Setup)

The Quick Setup menu configures all analog channels with equal settings, abbreviating the setup process.

6.4.1 Configuring Quick Recording Setup

- Select 'Quick Setup'.

Recording Schedule

There are five options for this entry. The default value is "No Rec." and therefore will not record on schedule without configuration.

No Rec. / Low / Standard / High / Custom

Except for "Custom", all options have preset fps, screen quality and resolution associated with them.

Resolution

There are 3 options total. (CIF/ HALF/ D1)

This option can only be configured if Recording Schedule is set to Custom.

How to Check for Recording Operation

Once the schedule event has been successfully configured, the REC LED on the front side of the console will light up. Also, the save status will be tagged with [S], displaying that all channels are being recorded normally.

6.5 Recording Schedule Setup

This menu is used to configure recording operations per channel or for all channels. Also, it is also used to configure recording schedules as well. After the user has configured Quick Setup, modifying parameters in this menu will cause the values set in Quick Setup to be overwritten.

6.5.1 All Channels

This menu resembles Quick Setup in that changes in this menu apply to all analog channels. Set Channel to "All", set Schedule to "All" and set Macro to Low, Standard or High.

6.5.2 Individual Channels

Individual channels may be assigned different recording schedules and macros. For example, channels 1 through 8 may be set to record during weekday afternoon while channels 9 through 16 are set to record at all times at "High".

Macro

There are five levels under this option: No Rec./Low/Standard/High/Custom.

"Custom" setting can be assigned with user-defined speed, quality and resolution.

Resolution

There are 3 options total: CIF/HALF/D1

The resolution value assigned in this menu is applied to both manual recording and event recording operations.

- CIF : 352x240
- HALF (HALF D1) : 704x240
- D1 : 704x480

Timed Recording

This menu is used to assign different recording conditions depending on the time period. In other words, using this option, if the user defines a specific time period during the day, the recording conditions will adjust accordingly automatically. The time period can be defined in the System menu.

There are 5 options total: No Rec./Low/Standard/High/As Above

Event Recording

Press [ENTER] and use the left/right buttons or the mouse wheel to choose "Yes" or "No".

Advanced event recording conditions can be set in the Event Recording menu.

In this menu, only whether or not the function will be enabled can be configured.

6.6 Configuring Event Recording

This menu is used to configure event-triggered recording operations.

There are four types of event recording: Sensor, Motion Detection, Text and Digital Input. To execute event recording, the relevant settings must be enabled under the Record Setup menu.

Once the recording conditions have been set, "Event Recording" under Record Setup must be set to "On". Also, before configuring event recording, "Event Source" must be configured. However, Digital Input event recording differs from the others in that it requires Macro to be set to above "Low" also to activate.

6.6.1 Event Source Setup

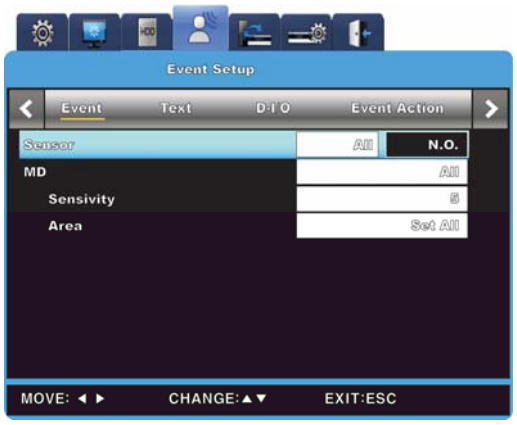
The following explains how to configure sensor, motion detection and text for the purpose of event recording.

6.6.1.1 Sensor Setup

This menu is used to configure sensor activity and sensor type.

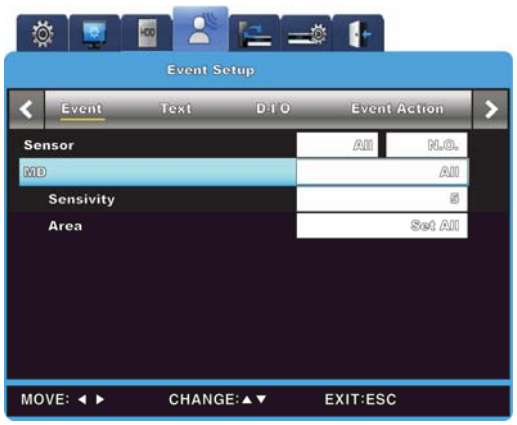
Two types of sensors are supported: Normal Open (N.O.) and Normal Close (N.C.)

Configure the settings according to the type of sensor used.



6.6.1.2 Motion Detection Setup

This menu is used to configure motion detection for the purpose of event recording for each channel.



Motion Detection

There are 12 levels of motion detection sensitivity: Min., 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, Max.

6.6.1.3 Text Setup

This menu is used to configure text events for the purpose of event recording and the text must set up in "Event Setup" under the OSD menu.

Recording

Text event recording events may be set to "On" or "Off".

6.6.2 Configuring Event Recording for All Channels

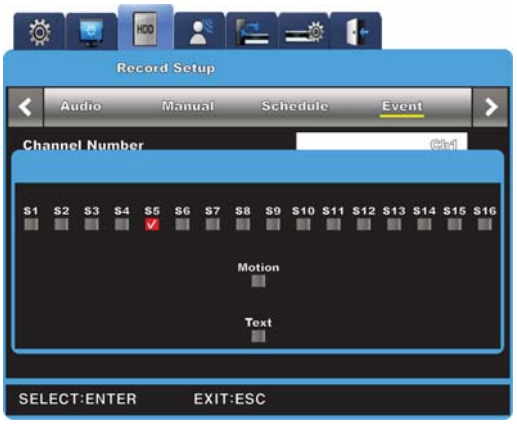
It is possible to apply the same settings for all analog channels throughout.

Sensor/MD/Text

Assign sensor/motion detection/text events for each channel.

Assignment means a one-to-one pairing between a channel and an event.

6.6.2.1 Setup by Channel



Event Source

- There are 16 event sources for sensor event (9 for SVR-960/945), 1 for motion detection and 1 for text.
- Check the corresponding box to enable sensor event sources.
- Check the box to enable the motion detection and text event sources.

Macro

There are 5 options total: (No Rec/Low/Standard/High/Custom).

All options aside “Custom” have preset “Speed” and “Quality” assigned to them.

Pre-Event (sec)

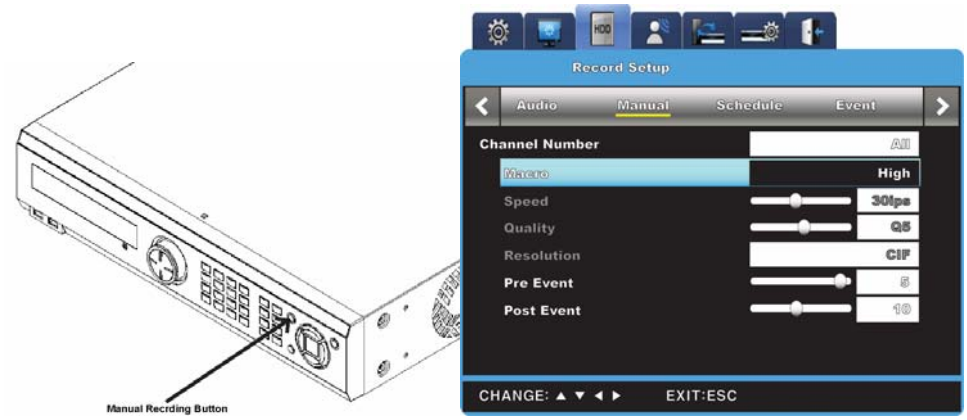
Up to 5 seconds

Post-Event (sec)

Up to 60 seconds

6.6.3 Manual Recording Setup

This menu is used to configure recording sequences initiated by pressing [REC] on the front side of the console. Starting a manual recording will ignore the regular settings and follow by values set in "Manual" under Recording Setup. The recording duration will be defined by Pre-Event and Post-Event under 'Manual'. Pre-Event determines how far back the recording will begin at the moment of button input and Post-Event determines for how long the recording will continue.



Recording Camera Num

It can select recording channels with relevant setup, and all & each channel selection are possible.

메모 [kdh2]: 국문 source에 없는 내용으로 무슨 의미인지 파악 안 됨

Macro

There are 5 options total: (No Rec/Low/Standard/High/Custom). All options aside "Custom" have preset "Speed" and "Quality" assigned to them.

Pre-Event (sec)

Determines the length of time the recording begins from prior to the user actually pressing [REC]. Up to 5 seconds.

Post-Event (sec)

Determines the length of time the recording will continue after the user presses [REC].

Up to 60 seconds.

6.7 Audio & Misc. Setup

This menu is used to configure audio and v-loss storage setups.

6.7.1 Audio

Options such as Audio Channel, Recording, Gain and Sync Video Channel can be adjusted in this menu.

Audio Channel

Select channel with audio.

Recording

Enable audio recording and storage. When set to "No", only the live visual feed will be accompanied by audio input. When set to "Yes", the playback data will also be accompanied by audio input.

Gain

Adjust the volume with + and -.

Sync Video Channel

This option determines to which channel the audio recording will be synchronized with. This is only relevant for recordings; audio output with live visual feed will be discussed in Audio Mix. If audio input from Channel 1 is synchronized with visual input from Channel 5, the audio data from Channel 1 will be played simultaneously with Channel 5.

6.7.2 Audio Mix

Select the audio input to be used with live visual feed. If set to "All", all audio data will play simultaneously regardless of which channel is being viewed. If set to a particular channel, the audio data assigned to that channel will play regardless of which channel is being viewed.

6.7.3 Record No Video

This menu configures whether or not a video recording with errors or that has been tempered with will be saved. For example, if set to "Off", the data from a channel without visual input will not be saved.

6.8 Monitor Setup

To display visual data on the monitor, it must be set up beforehand.

Monitor1 & Monitor2, Monitor3 & Monitor4 (SVR-3200/1680)

Monitor1 supports all functions supported by the DVR. Monitor2, 3 and 4 support all functions except for playback and search.

Monitor1 & Monitor2 (SVR-1660/1645/960/945)

Monitor1 supports all functions supported by the DVR. Monitor2 supports Event Pop-up, User Sequence and Screen Partition.

Switch to Event Screen (sec)

The screen containing an event trigger can be configured pop up automatically with this option. The pop-up screen may be set to remain from 2 to 10 seconds or "Keep". If set to "Keep", the pop-up screen will remain on the monitor for an indefinite time. To disable Keep mode, press any channel button.

If Ch.1 pops up due to an event trigger and Ch.2 pops up as well before Ch.1 pop-up expires, both channels will be displayed in a 4 partition screen mode. This will also reset the hold timer of all pop-up screens.

Covert Channel

A channel can be concealed from live visual feed with the Covert Channel option. This menu will display a list of all channels on the product. Select the desired channel by pressing [ENTER] or left-clicking. Recordings from such selected channels will not be played in playback mode or provide data in live visual feed mode.

Auto User Sequence

Auto user sequence can be configured to utilize 16 display modes and sequential interval of

from 1 to 60 seconds in this menu.

Multi Screen Definition

This menu defines the screen compositions 4E, 9B and 10A in advance. For SVR-960/945, only 4E is defined. To define a screen composition, select the composition to be defined, select the window to its right and press [ENTER] or use the mouse wheel to open the window.
Then, select the desired channel and press [ENTER] or left-click to define the composition with the channel. Once defined, press [ESC] or right-click to exit.

VGA Mode

Three resolution modes are available for VGA monitors: 800x600, 1024x768 and 1280x1024

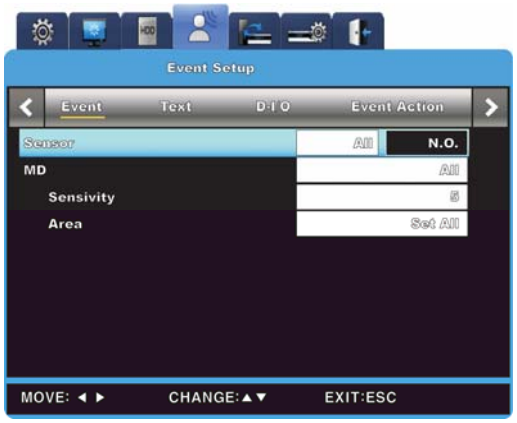
Info Level

Information level determines the level of information to be displayed on visual feed. For a live visual feed, the available options are; Time, Channel Name, Event, Recording Status, HDD, RC ID and Text. For playback, the available options are: Time, Command, Channel Name, Event, Text Display and Covert Level.

6.9 Event Setup

The Event menu contains the following seven sub-menus: Event, Text, D-I/O, Event Synchronization, Preset and System Event.

6.9.1 Event



Sensor

There are sixteen sensors available. If set to "All", all channels will be set to N.O. and N.C. Each channel may be individually set to N.O., N.C. or Off.

MD

Motion detection is used to detect changes in motion in all or individual channels and to trigger events.

- Channel

Channel can be set to All or as follows:

SVR-3200 : 1 - 32CH

SVR-1680/1660/1645 : 1 - 16CH

SVR-960/945 : 1 - 9CH

- Sensitivity

There are 12 levels of detection sensitivity: Min, 1 - 10, Max.

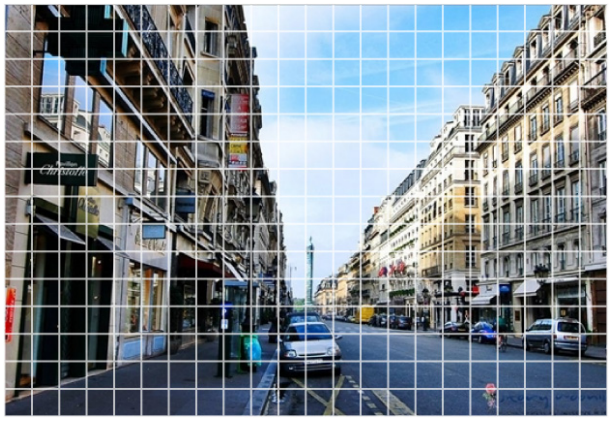
- Area

Area defines a section on the screen where changes in motion will be detected. If Channel is set to All, the available options are Apply to All and Disengage All. If Channel is set to individual channels, the available options are Apply to All, Disengage All and Custom.

- Select Area

Select Area is used to define the section where motion detection function will focus on for individual channels. The screen is divided into **22x15 in NTSC and 22x18 in PAL.** The MD area must contain more than one square.

The default value for this option is "Select All". Select "Define Area" to prompt the MD Area Definition window.

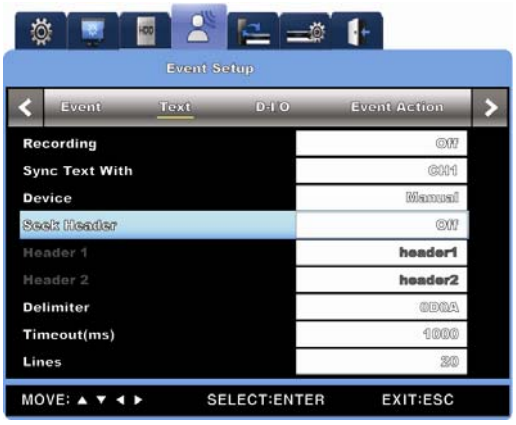


The MD area can be drawn directly on the screen by the user.

A selection grid of **22x15 partitions for NTSC and 22x18 partitions for PAL** will appear**.**

Partitions which have been set to detect changes in motion will be grayed out. Use the directional buttons to select the desired partitions and press [ENTER] or left-click. Once the area has been defined, press [ESC] or right-click to return to the previous screen.

6.9.2 Text



Recording

This option can be set to either On or Off.

Sync Text With

This menu is used to set the channel to synchronize text with.

Seek Header

Many external devices (such as Access Control, POS, ATM, etc.) export data in various formats. Some of these formats, like Star Finger 007, follow protocols supported by the product and therefore their headers do not need to be checked for. However, for protocols not natively supported by the DVR, the header of the text data must be checked to recognize the data. This parameter seeks the beginning and the ending points of digital information; Header, placed in the beginning, contains the information regarding the nature of the piece of data. By recognizing headers, the DVR is able to recognize that a new piece of information has been acquired. The reason this parameter is allowed to set to seek 2 headers is because an external device may export multiple pieces of data at once.

Delimiter

The required delimiter value varies from device to device, so it is recommended that the user refers to the appropriate instructions.

Timeout (ms)

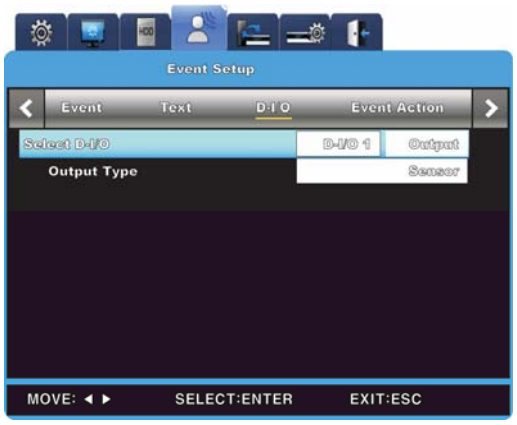
The Lines option below determines the number of text lines a single piece of information may use. However, despite the standardizations, some pieces of information may be shorter or longer than the others. For example, a customer may only use their first and last name when the ATM provdies three lines for first, middle and last names. Compared to other customers who use all three lines, that customer will have one less line in their relevant data packet. The DVR is unable to automatically detect such omissions; thus, this function is required to check for the timeout intervals resulting from such line count discrepancies.

Lines

This option defines the maximum number of lines a piece of information may contain.

Differences in external devices may prevent the correct number of lines from being recognized; please consult their respective agencies before installation.

6.9.3 D-I/O

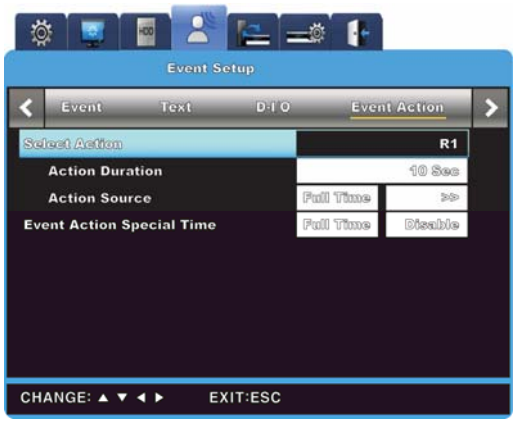


D-I/O is the port capable of simultaneous digital input and output operations and support up to 12 parallel operations.

D-I/O Channel & Input/Output

This option can be set to one of the D-I/O operation channels. When an input signal is picked up while this option is configured to input for any of the channels, an emergency recording operation will be executed. When set to output, the operation will begin once a sensor has received an input. If one of the twelve D-I/O channels are set to "Input" and the input type to "Emergency", an emergency recording operation will begin the moment the particular D-I/O is turned on (the recording macro will follow the macro set by Event Recording). The recording operation will last for the amount of time defined in Post-Event under Event Recording.

6.9.4 Event Action



Event Action coordinates consequent actions triggered by events.

Select Action

Event Action may be set to Relay1 through 4, Buzzer or E-Mail.

Action Duration

Action Duration determines the length of time the specified action will be maintained for Relays and Buzzer. For E-Mail, this parameter determines the interval the e-mails will be sent.

Action Source

Action Source may be set to Sensor, Motion Detection or Text. This configuration may be applied to all events.

- E-Mail Address

When an e-mail is sent by an event trigger, this is the address the message is mailed to. Input the e-mail address of the person receiving the messages. The address format must be xxx@xxx.xxx. Only alphanumerical characters are accepted.

- Sender Address

This address is only necessary the E-Mail option is used. The format must be xxx@xxx.xxx. The address is not absolutely necessary; however, using different e-mail addresses for each DVR may be useful for distinction purposes.

Timed Event Action

This option configures whether or not the action trigger is timed.

6.9.5 Network

This menu is used to configure the networking options of the DVR.

Type

This option configures the type of network connection (Ethernet/xDSL) the DVR is connected to. If the DVR's connection is leased, cable or LAN, this option must be set to "Ethernet". If the DVR is connected to a PPPoE type xDSL connection, the option must be set to "xDSL". However, if the connection is xDSL but not PPPoE, this option must be set to "Ethernet".

DHCP

DHCP (Dynamic Host Configuration Protocol) is a system used to manage host address in a network. Using protocols such as DHCP, all hosts connected to the LAN may share public IPs when connected to the Internet. In other words, all hosts connected to LAN receives temporary public IPs from the DHCP servers. If the LAN system possesses a DHCP server and an active DHCP menu, the DHCP will allot public IPs on the DVRs.

"DHCP" is only available for LAN environments with an active DHCP server. Usually, medium to large LANs have active DHCP servers. For small LANs, it is standard to use the HUB's NAT (Network Address Translation) instead.

IP Addr

For the DVR to communicate with Network Manager and Web viewer, an IP address for the DVR is required. However, this option is available only when Net Mask and Gateway have been set up.

Net Mask

Net Mask defines the range of area of possible IP addresses. It also allows IP addresses of the

same range to communicate with each other. Net Mask must be assigned by the network administrator.

Gateway

To communicate through an IP address, Gateway must be assigned by the network administrator and configured.

DNS1

DNS1 is required to register the DVR to SWR. Consult the network user to configure this option.

Additional DNS

Additional DNS is used when the primary DNS is unreachable or unstable.

Port

Port is used to register to SWR and to connect with Network Manager and Web viwer.

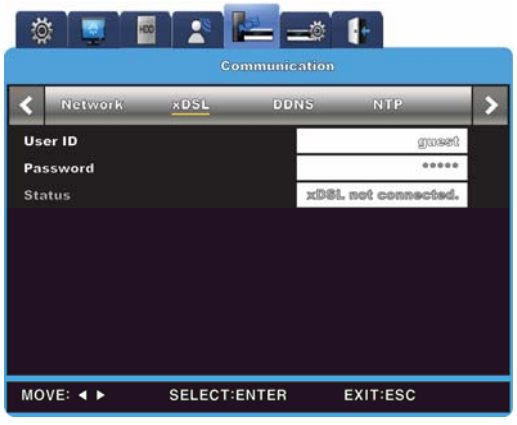
The default port setting is 4000. When using a PPPoE modem or a HUB, this setting may need to be reconfigured.

Bandwidth Limit (Mbps)

This option sets the uploading speed limit (data exportation capability in other words). Usually, no changes are required for this option. Consult the network administrator when adjusting this option.

6.9.6 xDSL

If the DVR is connected to a PPPoE xDSL line, the user ID and password must be assigned. Use the user ID and password provided by the ISP.



User ID/Password

If the DVR is connected to an xDSL line, the user ID and password need to be configured.

Status

Displays the connection status of the DVR.

6.9.7 DDNS

If the DVR is connected to a cable modem or an xDSL modem, a new IP address will be assigned each time the device connects to the ISP. In such a case, the user may not be able to find out the DVR's IP address. By registering a DVR with a dynamic IP address to a DDNS server, the DVR's IP may be identified by connecting to the DDNS server.

To register a dynamic IP address to a DDNS, follow the instructions shown below.

DDNS Registration procedure

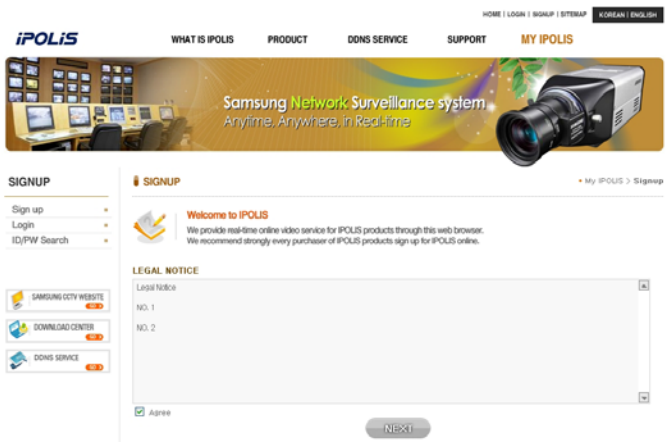
1) Sign up at iPOLiS homepage.

- The homepage URL is [www.samsungipolis.com]

메모 [kdh3]: 영문 사이트는 '.com'이므로 변경하지 않았습니다.

- iPOLiS Home page

- Accept the terms and conditions

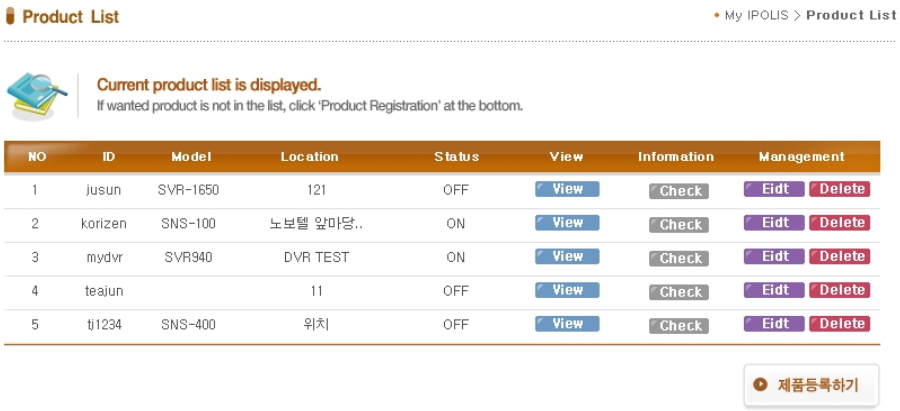


- SIGN UP page: check ID availability

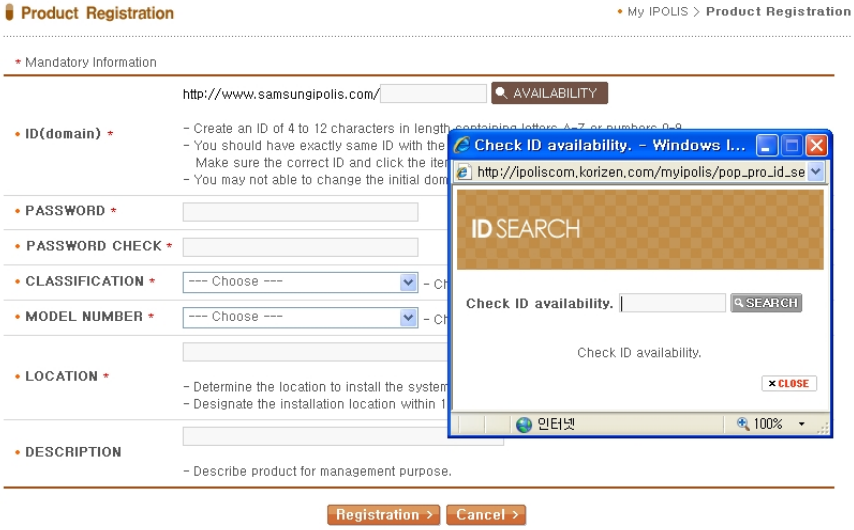
2) Register the product after sign up.

- Log on to iPOLiS website

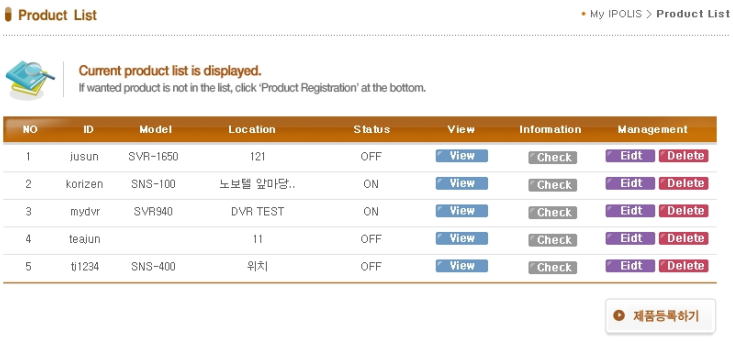
- Product List (If you didn't register products, there are no list)


Product List
My IPOLIS > Product List
Current product list is displayed.
If wanted product is not in the list, click 'Product Registration' at the bottom.
NO ID Model Location Status View Information Management
1 jusun SVR-1650 121 OFF View Check Eidt Delete
2 korizen SNS-100 노보텔 앞마당.. ON View Check Eidt Delete
3 mydvr SVR940 DVR TEST ON View Check Eidt Delete
4 teajun 11 OFF View Check Eidt Delete
5 ti1234 SNS-400 위치 OFF View Check Eidt Delete
제품등록하기

- Product Registration (**Check ID availability**)

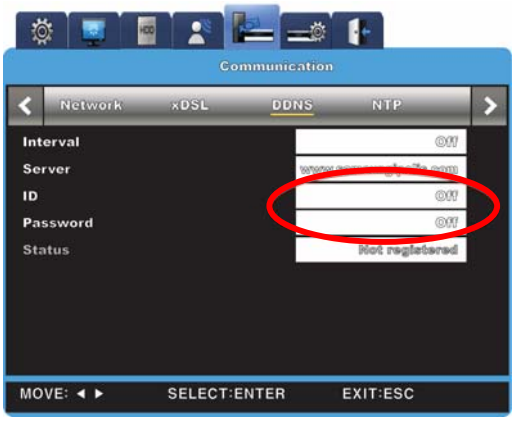


- Information regarding the registered products may be reviewed from the list


Product List
My IPOLIS > Product List
Current product list is displayed.
If wanted product is not in the list, click 'Product Registration' at the bottom.
NO ID Model Location Status View Information Management
1 jusun SVR-1650 121 OFF View Check Eidt Delete
2 korizen SNS-100 노보텔 앞마당.. ON View Check Eidt Delete
3 mydvr SVR940 DVR TEST ON View Check Eidt Delete
4 teajun 11 OFF View Check Eidt Delete
5 ti1234 SNS-400 위치 OFF View Check Eidt Delete
제품등록하기

3) Configure the product for DDNS

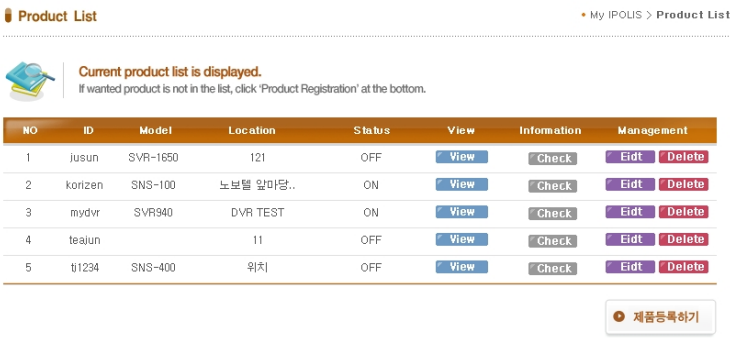
From the DVR's Network Setup menu, configure the settings as shown below. Select Menu and Network to prompt a screen similar to the illustration shown below. Set DDNS to "On" and input the DDNS address in 'DDNS SERVER DOMAIN NAME'. (The default value is www.samsungipolis.com.) For ID and PW, use the user ID (domain) and password used in iPOLiS product registration process.



This concludes the necessary configurations to the DVR for DDNS connection.

4) The connection status of product can be checked on the product list.

- The Product list will display status 'On' for the connected device


Product List
My IPOLIS > Product List
Current product list is displayed.
If wanted product is not in the list, click 'Product Registration' at the bottom.
NO ID Model Location Status View Information Management
1 jusun SVR-1650 121 OFF View Check Edit Delete
2 korizen SNS-100 노보텔 앞마당.. ON View Check Edit Delete
3 mydvr SVR940 DVR TEST ON View Check Edit Delete
4 teajun 11 OFF View Check Edit Delete
5 ti1234 SNS-400 위치 OFF View Check Edit Delete
제품등록하기

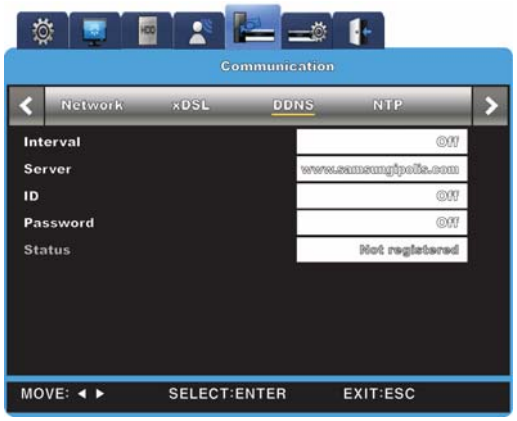
[VIEW]: See the log-in page of selected product

[Edit]/ [Delete]: Edit/Delete the selected product—will prompt password confirmation dialogue

메모 [kdh4]: 국문 source에 없는 내용

Once the product has been registered, its ID (domain) may not be changed. When the product's ID needs to be changed, the product's registration must be reset. Register the product again with the new ID.

To register a fixed IP address to a DDNS, follow the instructions shown below.



Interval

To maintain continuous registration status, a registration cycle must be assigned from "Interval". A dynamic IP address will renew the relevant data from the DDNS per each interval. If the user sets the registration interval to "Disabled" or the DVR does not upload any information over two days, information regarding the DVR will be removed from the DDNS database.

Server

This menu is used to configure the server address to be registered. The address of the SWR is www.samsungipolis.com.

ID

Use the ID for the DDNS login.

Password

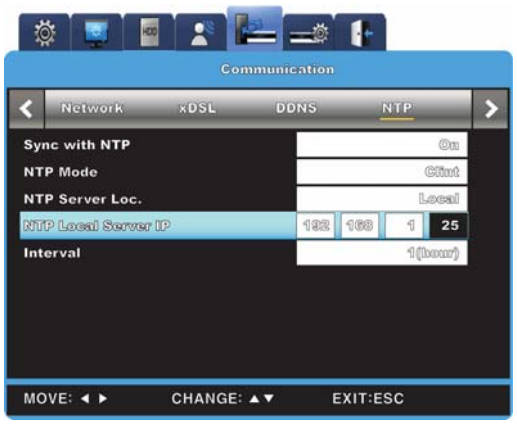
Use the password for the DDNS login.

Status

The DVR's registration status is indicated. "Not Registered" means that the DVR is not registered to the DDNS. "Date/Time & OK" means that the DVR has been registered to the DDNS.

6.9.8 NTP

NTP (Network Time Protocol) is used to synchronize the system times across the devices connected to a network. It consists of two parts: a server defining the standard time within a network and a client receiving the standard time information and synchronizing the devices.



Sync with NTP

The NTP function may be set to "On" or "Off".

NTP Mode

The DVR's NTP mode may be set to Client, Server or Both.

NTP Server Loc.

If the NTP Mode is set to "Client", NTP Server Location will be set to "Enable". It determines the presences of the NTP server within the local or public network.

NTP Local Server IP

If the NTP Service Location is set to "Local", NTP Local Server IP will be set to "Enable". It determines the IP of the NTP server. In a local network, the IP of the NTP server or the DVR acting as the server is used.

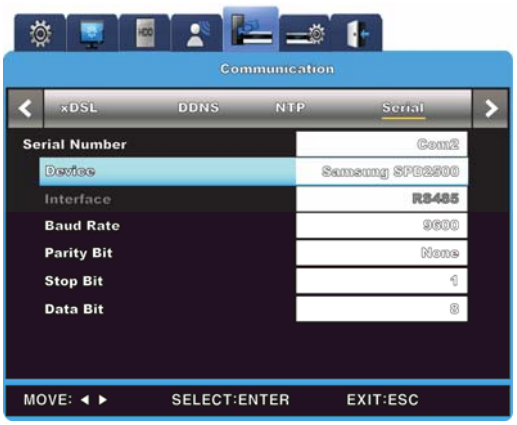
Interval (min)

Sets the interval period between synchronization.

If NTP Mode is set to “Client”, Sync with NTP must be set to “On”.

6.9.9 Serial

The DVR may use up to 4 serial ports total. 2 are RS-232C; the other 2 are RS-485.



Serial port

Select the port used to control an external device.

Device

Select the device connected to the DVR.

Interface

This menu is used to configure the type of interface to be used.COM1 and COM3 are fixed to RS-232C, COM2 is fixed to RS-422/485 and COM4 is fixed to RS-485.

Baud rate/Parity/Stop (bit)/Data (bit)

Synchronize with the configuration values of the external device connected to the DVR.

6.10 System Setup

6.10.1 Setup

Remote Controller ID

- Up to 16 RC IDs may be configured. Up to 16 DVR consoles may be controlled by a single remote controller. To register a remote controller, follow the instructions shown below. Point the remote controller at the DVR. Press the ID button corresponding with the RC ID.
- If the RC's ID and the DVR's ID match, the DVR will buzz.
- Once the ID has been configured, the remote controller may be used.

DVR ID

This menu is used to configure a remote controller to access all of the DVR's functions. The default value is "1". If multiple DVRs are connected to a single keyboard, there may be clashes between channels. To avoid such clashes, assign different IDs for the devices.

DVR Alias

This menu is used to configure the DVR's name.

Playback Deinterlace

Playback deinterlacing may be set to "On" or "Off". Recording resolution must be set to Full D1 for this option to be activated. If set to "On", image instabilities in paused Full D1 images will decrease.

Language

OSD menus support multiple languages. Select the desired device language.

Firmware Update

Save the firmware updater for USB in a USB device and connect it to the DVR. Select Firmware Update from the System menu and press [ENTER]. When a confirmation dialogue window pops up, select "Yes" and press [ENTER]. The product will reboot after a buzz. Firmware updaters for USB are provided in the .dat format.

*.dat" file is provided as update firmware for USB.

To update the firmware of the DVRs through network connection, execute the updater application and left-click the DVR to be updated from the prompted list. Once the selected DVR's IP, MAC address and Port appear, input password assigned in SNM-128S (default value: 11111111) in the "Admin's Password" entry. Select "Starting Upgrade" to begin updating. After upgrading, a dialogue window will pop up. Select "Yes" to reboot the product and finish the updating process.

Load Configuration

This menu is used to load the configuration values from a USB device and apply them to the DVR.

Save Configuration

This menu is used to save the current configuration values in the USB device.

Default

This menu is used to restore factory default. To do so, select "Default".

System Log

The system log may be reviewed to examine HDD, power and system alarm behaviors.

6.10.2 Disk Setup

The following instructions explain how to install internal or external hard disks and how to remove or format them as well.

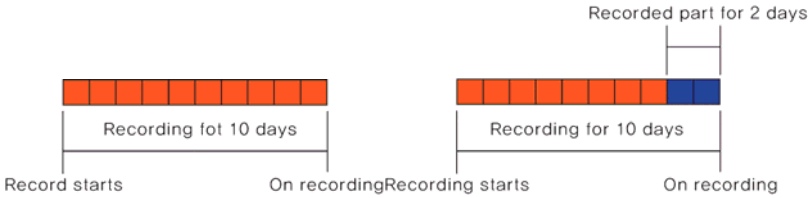
Repeat Record Mode

When there is no more space within the HDD to store data, the DVR will automatically rewrite over the oldest data in the HDD.

Warning Level

When the total disk availability of all media storage devices connected to the DVR falls below the Warning Level, a warning message regarding the space shortage will be prompted.

Block Playback



[Drawing 1] [Drawing 2]

This function is used to play small sections of visual data recorded on the hard disk space. For example, out of 10 days of recording, only two days of video may be played with Block Playback.

Disk Manager

Disk Manager is used to manage both internal and external HDDs connected to the DVR. It manages the HDDs' status, bad sectors, size, disk usage, etc.

Disk Status

Use Disk Status to view the HDD's temperature and status.

Type : Displays the location and type of the disk.
Int A (Internal A HDD), Int B (Internal B HDD), Ext (External HDD)

Model : Displays the HDD's model name

Bad Sector : Displays the presence of bad sectors of the HDD. When no bad sector is detected, this option will be set to 0. Bad sectors in unused HDDs are not checked for.

Size(MB) : Displays the size of the HDD in MB.

Enabled : Displays the HDD usage.
Yes: Used / No: Unused

To change HDD usage to Yes

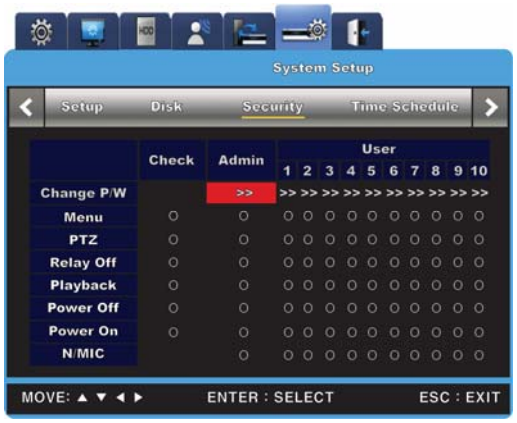
- Selecting "No" and pressing [ENTER] or using the mouse wheel will prompt the following notice:
- “Warning: This disk can be used without formatting. Would you like to format this disk?”
- Select "**No**" to preserve the data and enable the HDD usage.
- Select "**Yes**" to delete all data and enable the HDD usage.

To change HDD usage to No

- Selecting "Yes" and pressing [ENTER] or using the mouse wheel will prompt the following notice:
- “Warning: The disk will be disabled.”
- Select "**Yes**" to disable the HDD. A status message saying "Disk has been disabled" will appear to the bottom of the screen.
- The HDD has been disabled.
- Select “No” at the warning message to continue HDD usage.

6.10.3 Security

There are two types of DVR users such as administrator and user and there is no limit to use the DVR for the administrator. Maximum 10 users can use this device and authorization is needed to use it.



Authority

The user can use the entire functions without limitation when all the configuration of examinations at authority section are “X”.

On the contrary, the user can use limited functions when the confirmations at authority are "O".

If the user1 configure the unit as above, the user1 can use upto relay Off, power On, N/mic function while the user2 can use the mic function only. Same method is applied upto user10.

Admin Password

Default administrator password is "11111111" and it is changeable. 8digits are required.

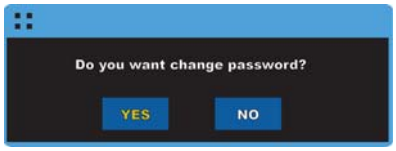
User Password

Default password for user1 is "11111111" and "22222222" for user2. Default password for the user10 is "00000000". In case of 16channel DVR, button10 is used as there is no relevant number button for 0.

Changing password

When the user wants to change the password, click the password changing button as below

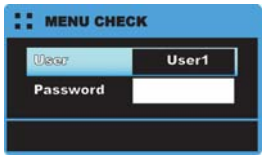
Password input window pops up. Type the password and click on "change"button.



Y/N window pops up and click on"Y" to continue changing. Changing Password is completed.

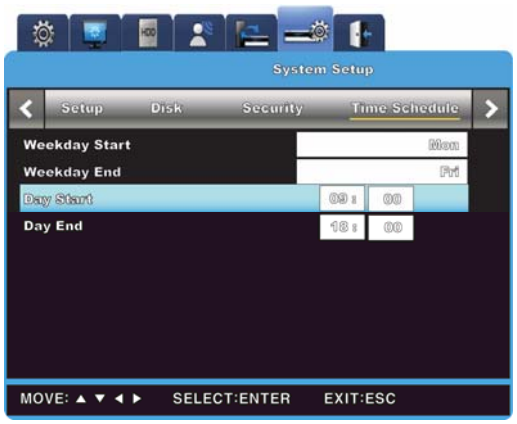
Using authority

Password is identified and usable. When the function to use is executed, password window pops up. Select the user and type the relevant password. Now the user has the authority to use the function.



6.10.4 Time Schedule

This menu is used to define weekday day, weekday night, weekend day and weekend night by configuring the date and time.



Weekday Start/End

Select the first and the last days of the week. Days outside the range are considered to be weekend.

Day Start/End

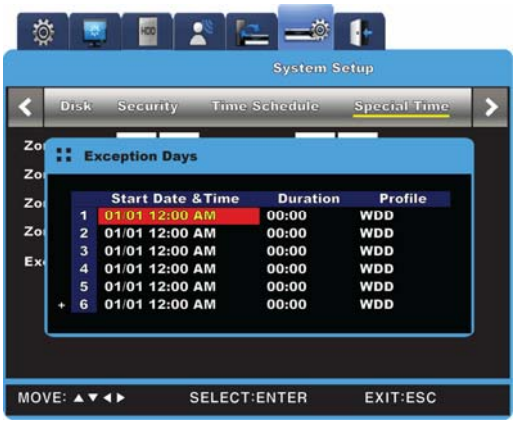
Use the up/down buttons to define the beginning and ending of the daytime. Hours outside the range are considered to be night.

6.10.5 Special Time

Up to four special times may be configured. Also, each time range (Weekday day, weekday night, weekend day, weekend nigth) may contain own special times. For example, the special time function may be used to specify lunch breaks and meetings and assign special events for them.

Use this function to define regular special time ranges.

Exception Days



This function is used to define irregular special time ranges. Up to 30 exception days may be configured and each may be specified to Start Date & Hour, Duration and Profile.

Start Date & Time : Displays the starting date and time of the exceptions.

Duration : Configures the duration of the exception starting from the start date and time.

Profile : Profile allows the exception recordings to save as regular recordings. It may be set to Weekday Day, Weekday Night, Weekend Day and Weekend Night.

No Rec : No Recording

WDD : Recording as Weekday Day

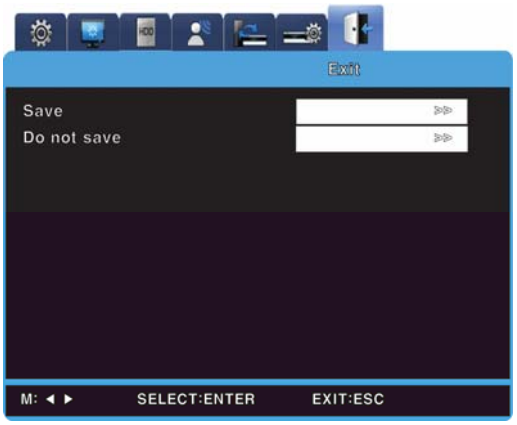
WDN : Recording as Weekday Night

WED : Recording as Weekend Day

WEN : Recording as Weekend Night

6.11 Exit

This menu is used to exit the configuration menus with or without saving the changes.

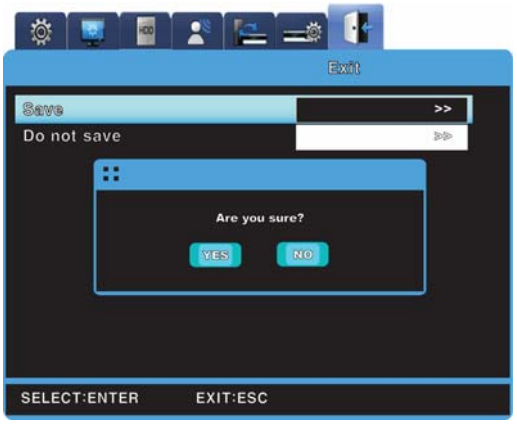


Save

Select this to save the changes to the DVR configuration and exit the menu. When a dialogue window appears, select "Yes" to save the changes and exit and select "No" to exit without saving.

Do not Save

Select this to exit the menu without saving any changes.



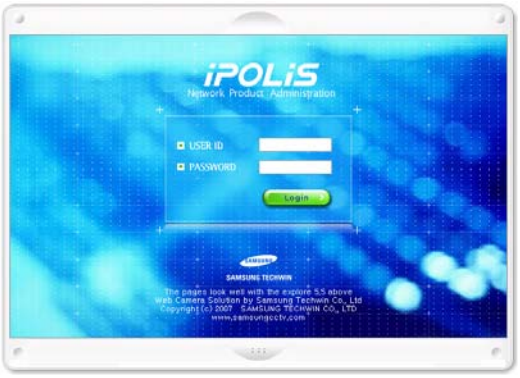
Chapter 7. Web Viewer

Web Viewer is a web application provided as a complement for the DVR, capable of receiving visual live feeds and playing recorded data from a distance over the Internet. Web Viewer's structure consists of the log-in page, monitoring monitor and playback monitor. Detailed descriptions of the components are as follow.

7.1 System Requirements

	Minimum	Recommended
CPU	Intel Pentium 4 / 3.0GHz	Core2duo E6750 or higher
Main Memory	1GB	2GB or higher
Video Memory	128MB	512MB or higher
Display Resolution	1280 x 1024 (with 32bit color) or higher	
HDD	1GB or higher	
OS	Windows XP Professional / Window Vista Business	
Others	DirectX 9.0 or higher	

7.2 LOGIN

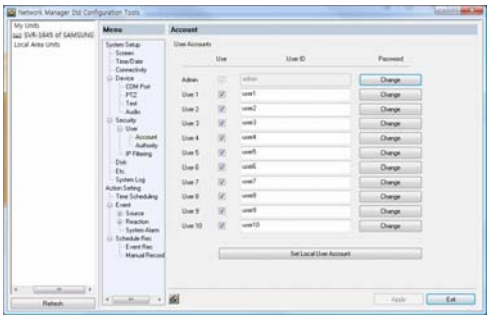


Use the IP address and port assigned to the product to access the Web Viewer Log-in page. The URL to access the page will be similar to http://192.168.1.100:4000. If the port value has been changed from the default value of 4000, use the changed value instead after the colons. Use the ID and password from SNM-128S and click "Login". The default ID and password are [admin] and [11111111] (eight ones). The password may be changed, but the ID may not.

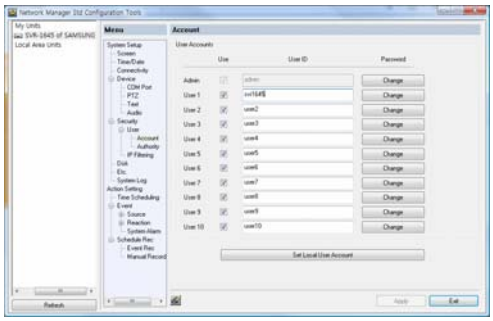
To change the DVR's administrator password or issue new user ID and password, refer to "7.3 Connection User Setup".

7.3 Connection User setup

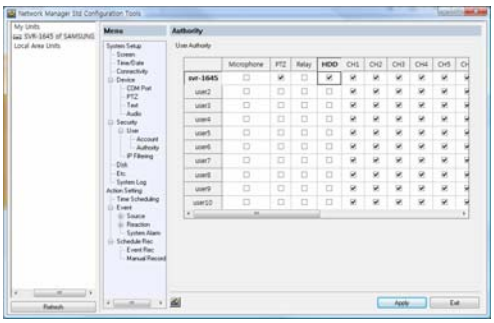
To log into Web Viewer, the user ID and password must be entered to Network Manager's Configuration Tool.



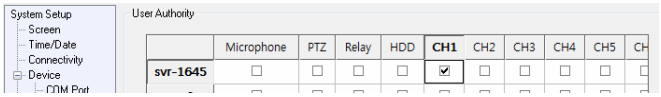
Up to 1 administrator and 10 regular user IDs and passwords may be issued. For security purposes, the administrator and regular passwords must be distinct. Uncheck the usage box of unused user accounts as well.



The illustration above displays Network Manager Configuration Tool after user IDs and passwords have been changed.



After the accounts have been configured, assign authority levels for each account. To allow playback access, check "Hard" under the user's account in Configuration Tool. Also, to allow accesses to "Microphone", "PTZ", "Relay", etc., check the relevant boxes and apply the changes. To allow access to Ch.1 only, uncheck all boxes aside Ch.1.



7.4 Supported Browser

Web Viewer is optimized to Windows Internet Explorer 6.0 and higher.

Web viewer Installer

The installation program necessary to use Web Viewer is provided at the login page. For computers without ActiveX, Web Viewer will install ActiveX to allow Web Viewer's functions to work as intended.

Please close all programs related to Network Manager before installing Web Viewer. Failure to do so may result in malfunction.

7.5 Monitor

Once provided with the correct ID and password combination, Web Viewer will automatically move to the monitoring page. The monitoring page is used to watch live visual feed or to perform other functions allowed with the account's authority level.

Detailed explanation and description of the features of the monitoring page is as follow.

7.5.1 Screen Partition & Image Movement

The monitoring page will display a partition mode according to the model.

Using the buttons shown above, the partition mode may shift from Single, 4, 9, 13 and 16 partitions. Clicking the monitoring area will change the partition mode to Single.

Double-click the channel to expand into Single partition mode.

The screen will expand into Single partition. To return to the partition screen, double-click the monitoring area once again. In a partition mode, the placement of screens may be moved around. To move Ch.3 to where Ch.6 currently is, drag and drop the partition corresponding to Ch.3 over Ch.6 to switch their places.

7.5.2 Moving Playback

Click the "Playback" button shown above to move to the playback page.

7.5.3 Channel On/Off

Channel On/Off buttons are located to the left of the page. Click the channels to toggle between On and Off. The default value for all channels is On.

The above illustration displays the result of toggling Ch.8 and 9 off. When turned off, buttons will change color and the corresponding screen will fade to black. Deactivated buttons are channels not supported by the DVR model.

7.5.4 Sensor indication

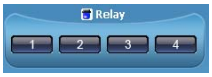
This icon indicates that a sensor has been triggered.

When triggered, its corresponding icon will turn red and the sensor ID number will be displayed on the video. Sensors that have not been triggered will remain blue.

Deactivated sensor icons are sensors not supported by the DVR model.

7.5.5 Relay operation

The product's Relay can be set to On or Off. Clicking a relay button will set the corresponding relay to On and change the button's color from blue to orange.



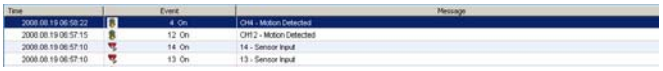
Deactivated relay buttons are relays not supported by the DVR model. Relay actions require a specific authority level. Consult the manual on how to configure relay authority level.

7.5.6 Microphone use

Microphone usage may be set to On or Off. The default value is Off. Clicking the button will depress the button and toggle the usage status.

Deactivated Mic. button means that the model does not support this function.

7.5.7 Event Data



A real-time log of event information is displayed below the monitoring page. Items found in this log are as shown below. (Table Event Icon)

Button	Function
	Change setup
	Motion detection
	Sensor
	Relay On
	V-loss
	Text Input
	User Login

7.5.8 Video Recording & Video Storage

7.5.8.1 Video Recording

To record the visual data from the monitoring mode, select the channel, right-click and select "Rec Start". Up to 10 minutes of video may be recorded in this manner. If a Quick Recording operation is executed, the duration of the recording will be displayed on the visual.

Selecting "Rec Stop" while recording will conclude the recording operation. A dialogue window regarding the file location will be prompted and the user may save the file in any desired directory. The recording will save as a .re4 file, which can be played in NETWORK MANAGER Playback Program or a Mini-Player.

7.5.8.2 Save Image

The visual image may be saved as a .jpg, .bmp or .eye file and will save the frame currently displayed on the monitoring screen. To save an image, right-click the channel to save image

from and select "Save As". To confirm the saving operation, go to the directory the image is saved to and double-click the image.

7.5.9 PTZ Use

While monitoring, right-clicking on a channel supporting PTZ and selecting "PTZ" will allow the user to manipulate the camera position.

Pan, Tilt Control

To control PTZ, right-click the channel to manipulate and select "PTZ". A white cross will appear at the center of the screen. Click on the screen to manipulate camera position. Clicking left or right of the cross will pan the camera and above or below will tilt it. Clicking further from the camera will cause the camera to change its position faster.

Zoom, Focus Control

Placing the cursor at the left and right sides of the screen will reveal the zoom and focus slide bars. A camera unit supporting Area Zoom In will also support the Zoom Zero button. Use the slide bar to the left to zoom in and out and the right slide bar to control focus.

PTZ Home

If a preset position is configured, right-click during PTZ mode and select the desired preset position from "Goto Preset". The camera will move to the preset position. Preset positions must have been configured beforehand.

Auxiliary Operation

If a preset position has been configured, the pop-up menu will also contain "Auxiliary". Selecting the item will perform the assigned action.

For detailed explanation of the PTZ function and the list of supported cameras, please refer to "4.8 Manipulating PTZ".

7.5.10 Audio Use

If a channel is paired with an audio channel, right-clicking the visual and selecting "Listen" from the pop-up menu will activate audio input. Also, to listen to the audio signal, Mute also needs to be unchecked.

7.5.11 Image Channel Close

Clicking the channel buttons to the left of the screen will disconnect the visual connection and fade to black. To reconnect the channel, click the off channel button again.

7.6 Playback

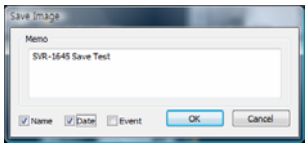
Recorded data can be reviewed in the playback mode. Only users with HDD access may use this mode. The playback mode uses 16 Partition screens and supports searches by time, calendar and cycle. Also, paused streams may be printed or saved as .bmp image files. Detailed explanation and description of the features of the playback page is as follow.

7.6.1 Screen Division & Channel Change

Playback supports 1, 4, 9 and 16 Partition modes. Use the menu (shown above) at the top of the page to choose a partition mode. When the monitoring screen is displaying Channel 1 through 4 in 4 Partition mode, clicking ">>" button will display the next four channels. To return to the previous four channels, click "<<".

7.6.2 Image Recording

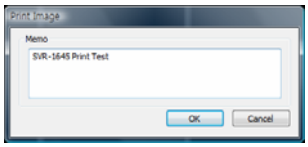
A frame from a playback can be saved as a .bmp image file. Click the channel to capture and click "Save".



A Save Image dialogue window will pop up. A brief memo on the image can be saved with it. Click "OK" to prompt save location window.

7.6.3 Print

Printing a channel is similar to capturing a frame. Click the channel to print and click "Print".



Type the relevant memo and click "OK" to print the image. The print will contain the printing date, channel name, recording date, event and memo.

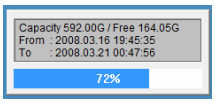
7.6.4 Move to Web Monitor

To move to Web Monitor, click "Monitor" at the top left of the page.

7.6.5 Channel On/Off

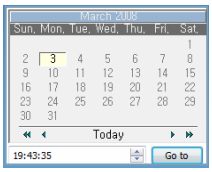
This function is identical to the Web Monitor counterpart. The Channel On/Off buttons are at the right side of the page and clicking them will turn the channels on and off. The default value is On. Deactivated channel buttons are not supported by the DVR model.

7.6.6 Recording Duration & Recording Size Check

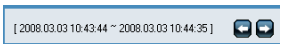


This menu displays used and remaining spaces in the HDD. It also displays the total recording duration. HDD usage is expressed as a percentage.

7.6.7 Calendar Search



Days with recordings are activated as black buttons and days without recordings are gray and deactivated. To review the recording, select the date and time of the recording and click to play the recording from the specified timeframe.



Clicking "Go To (

)" will display the timeframe of 24 hours beginning from the date and time specified above at the bottom left. Click "24h" to adjust the timeframe.

7.6.8 Playback Toolbar

① Displays the recording duration.

② Shifts through the time frame by an interval set by (5).

③ From left to right: "Move back 1 frame", "Play backward", "Pause", "Play" and "Move forward 1 frame"

④ Sets the standard video speed. Click the button and choose from 0.5x, 1x, 2x, 4x, 16x, 32x, 64x and All.

⑤ Sets the shift interval. Click the button and choose from 10 min, 30 min, 1 hour, 3 hour, 6 hour, 12 hour and 24 hour.

메모 [kdh5]: 불필요한 화살표 이미지 삭제

⑥ Toggles DirectX usage. If enabled, the video will be drawn with DirectDraw and improve the quality depending on the PC's specification.

⑦ Controls the volume

Trouble Shooting

1. DVR is not booting up

- Check the power supply
- Check the power cord

2. Monitor won't display anything

- Check the monitor's power supply
- Check the connection between the DVR and the monitor
- Check the monitor's cable port
- Check whether DVR is turned on
- If the images are in black and white, check the camera type (NTSC/PAL) and reboot

3. Some channels are dead

- Check the camera's power supply
- Check the camera's input status
- Check the DVR's input port
- Check the Activity setting under the Screen menu
- Check the Covert setting under the Monitor menu

4. The video won't record

- Check for the HDD connection status from Disk Manager
- Check the Recording settings

5. The recordings won't play

- Check the Recording settings
- Check the button activity

6. Images are too dark or bright

- Check the camera's configuration
- Separate the visual input cable from power supplies
- Check the Brightness and Contrast settings under the Screen menu

7. The remote won't work

- Check the batteries

- Check the remote's ID
- Check the remote's specification

8. The buttons aren't working

- Check the DVR's power supply
- Check the Screen Lock setting

9. The DVR won't connect to the network

- Check whether the network cable is connected properly
- Check the DVR's IP
- Check the PC's IP
- Ping Test
- Check the PC's specification if Web Viewer will not run properly

10. Cases to contact purchasing agency

If the following cases occur, immediately cease the product operation, shut off the power supply and take the console to the purchasing agency for repair.

- The product malfunctions during operation (Ex.: Strange noise, smell, smoke, etc.)
- The power cable or the connector has been damaged.
- The product has been flooded.
- The product has been spilled on.
- The product will not function as stated in this document.
- The product was severely damaged due to physical shock.
- A stark change in performances has been noticed.

Compatible HDD List

Seagate Technology		Western Digital	
Capacity	Model	Capacity	Model
1000GB	ST31000340SV	1000GB	WD10EVCS
750GB	ST3750840SCE	750GB	WD7500AVCS
500GB	ST3500830SCE	500GB	WD5000AVJS
250GB	ST3250820SCE	250GB	WD2500AVJS

Compatible Media List

DVD-R manufacture	CD-R manufacture
Mitsubishi(Exhortation 16X)	Mitsubishi(Exhortation 16X)
TDK(Exhortation 16X)	TDK(Exhortation 16X)
Imation(Exhortation 16X)	Imation(Exhortation 16X)
Sony(Exhortation 16X)	Sony(Exhortation 16X)

Specification

Item		Description
Display		
Video	Inputs	SVR-3200 : 32 composite video 0.5–2 Vpp, 75 ohm automatic termination SVR-1680/1660/1645 : 16 composite video 0.5–2 Vpp, 75 ohm automatic termination SVR-960/945 : 9 composite video 0.5–2 Vpp, 75 ohm automatic termination
	Resolution	704x480 NTSC
Live	Frame rate	SVR-3200 : 960fps SVR-1680/1660/1645 : 480fps SVR-960/945 : 270fps
	Resolution	704x480 NTSC, 704x576 PAL
	Multi Screen	SVR-3200/1680/1660/1645 : 1/4/9/10/16 SVR-960/945 : 1/4/9
Performance		
Recording	Compression	MPEG-4

	Record Rate/NTSC	**SVR-3200** : 480fps@704x480, 960fps@704x240, 960fps@352x240 **SVR-1680** : 480fps@704x480, 480fps@704x240, 480fps@352 x 240 **SVR-1660/1645** : 120fps@704x480, 240fps@704x240, 480fps@352x240 **SVR-960/945** : 120fps@704x480, 240fps@704x240, 270fps@352x240
	Record Rate/PAL	**SVR-3200** : 400fps@704x576, 960fps@704x288, 960fps@352x288 **SVR-1680** : 400fps@704x576, 400fps@704x288, 400fps@352x288 **SVR-1660/1645** : 100fps@704x576, 200fps@704x288, 400fps@352x288 **SVR-960/945** : 100fps@704x576, 200fps@704x288, 225fps@352x288
	Mode	Manual, Schedule, Event, Emergency
	Overwrite modes	Continuous
	Pre-Event	Up to 5 sec.
	Post-Event	Up to 60 sec.
Search & Playback	Search mode	Date/time, Event, Calendar, Thumbnail, Bookmark Text(Exclusive viewer)
	Frame rate	480 fps D1 NTSC, 400 fps D1 PAL
	Playback function	REW, FWD, Frame advance (control keys and jog shuttle)
Network	Transmission speed	SVR-3200/1680 : 16 Mbps SVR-1660/1645/960/945 : 9 Mbps
	Bandwidth control	Automatic
	Multi Stream	MPEG-4(Dual Streams)/JPEG
	Remote Users	Up to 10 simultaneous users
	Protocol support	TCP/IP, DHCP, DNS, DDNS, HTTP, ARP, ICMP and NTP
	Monitoring	CMS Software(SNM-128S/P), Built-in web server
Storage	Maximum Capacity	SVR-3200/1680/1660 : 16 TB

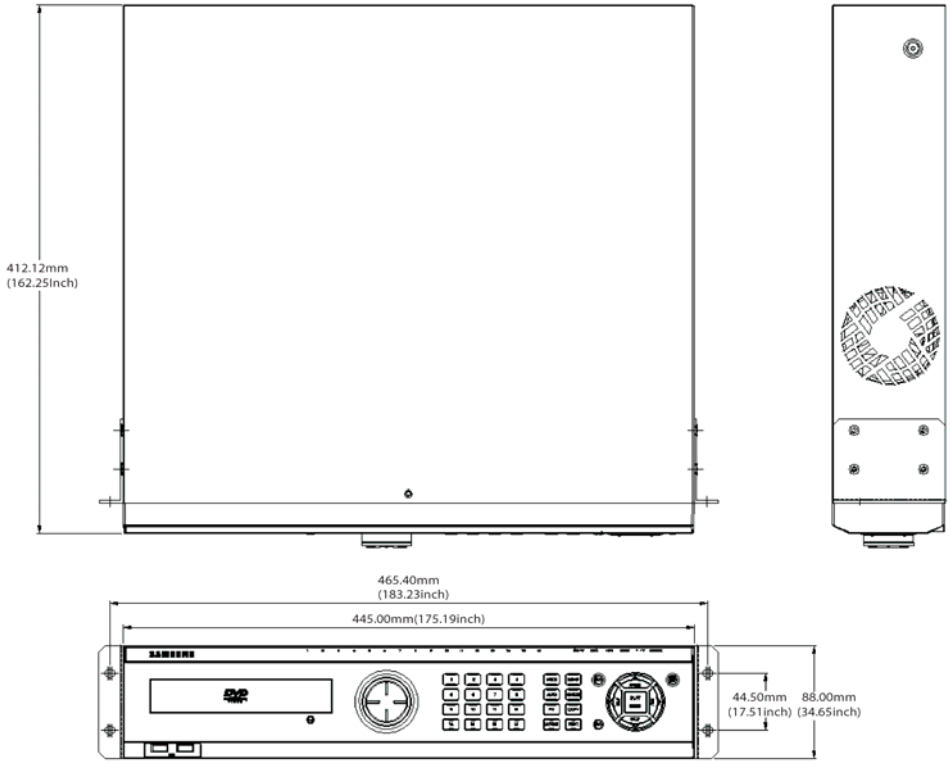
메모 [kdh6]: 국문에 없는 내용

		SVR-1645/960/945 : 8 TB
	Internal HDD	SVR-3200/1680/1660 : 4 HDD SVR-1645/960/945 : 2 HDD
	External HDD	SVR-3200/1680/1660 : External eSATA 2 port SVR-1645/960/945 : External eSATA 1 port
	DVD Writer (Back-up)	DVD-R / CD-R
	USB (Back-up)	2 External USB Ports(USB 2.0)
	File Format (Back-up)	BMP, AVI, Proprietary format / JPG(Exclusive viewer)
Security	Password Protection	10 User Level
	Data Authentication	Watermark
Interface		
Monitors	VGA	Analog RGB 800x600, 1024x768, 1280x1024 resolution
	Main Composite	BNC, 1 Vp-p, 75 ohm, Multi-screen, Menu, Playback
	Sub Composite	Monitor2~4 : SVR-3200/1680(Menu, Event Pop-up, Covert, Display Switching) Sport : SVR-1660/1645/960/945(event Pop-up, Display switching), 1 Vp-p, 75 ohm
	Loop Outputs	SVR-3200 : None SVR-1680/1660/1645 : 16 Output, 1 Vpp, 75 ohm SVR-960/945 : 9 Output, 1 Vpp, 75 ohm
Audio	Inputs	SVR-3200/1680/1660/1645 : 16 input, 30k ohm SVR-960/945 : 9 input
	Output	1 line, 100k ohm
	Compression	ADPCM
	Sampling rate	16 kHz
Alarm	Inputs	SVR-3200/1680/1660/1645 : 16 Input, NO/NC SVR-960/945 : 9 Input
	Outputs	Screw terminal 4 relay outputs, NO/NC
	Remote notification	Notification via e-mail
Connections	Ethernet	RJ45 10/100 Base-T
	Serial interface	RS232
	PTZ control interface	SVR-3200/1680/1660 : RS485/RS422 SVR-1645/960/945 : None, RS422, RS485 2 ea
	PTZ Keyboard	RS485, max. signal voltage ±12 V

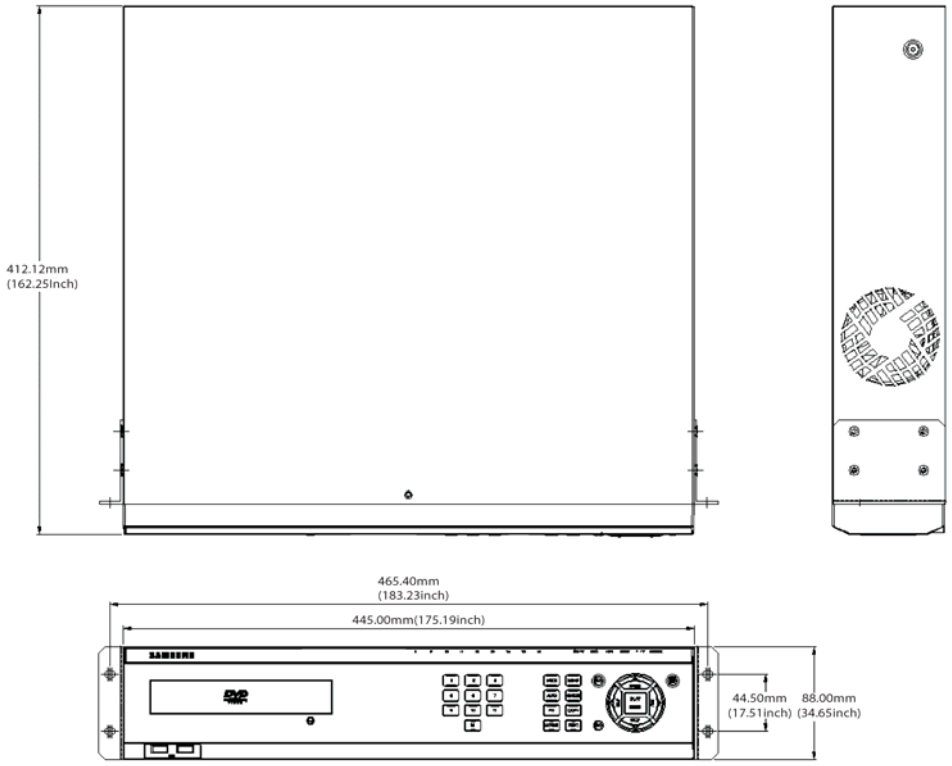
	USB	2 USB 2.0 ports
	eSATA	SVR-3200/1680/1660 : External eSATA 2 port SVR-1645/960/945 : External eSATA 1 port
	Application Support	ATM/POS, Mouse, Remote Controller
Dome Protocols	Supported PTZ cameras	Samsung Techwin, Pelco D, Pelco P, Panasonic, Bosch, SEC
General		
Electrical	Input Voltage	100 to 240 VAC ±10%; 50/60 Hz, Auto-ranging
	Power consumption	Max. 65 W (with 1x HDD) Max. 88 W (with 2x HDD) Max. 90 W (with 4x HDD)
Environmental	Operating Temperature	+5°C to +40°C (+32°F to +104°F)
	Operating Humidity	0% RH to 60% RH
Mechanical	Dimensions (W x H x D)	445 x 88 x 388 mm (17.5 x 3.5 x 15.3 in) SVR-945 : 300 x 88 x 302 mm(118.11 x 34.65 x 130.7 in)
	Weight (1x hard disks)	Approx. 10 kg (22.1 lb), SVR-945 : 5 kg (11 lb)
	Rack mount kit	For mounting one unit in an EIA 19-inch rack (SVR-945 Stand type)
Language		English, Korean *Language will be added to next firmware version.

Dimensions

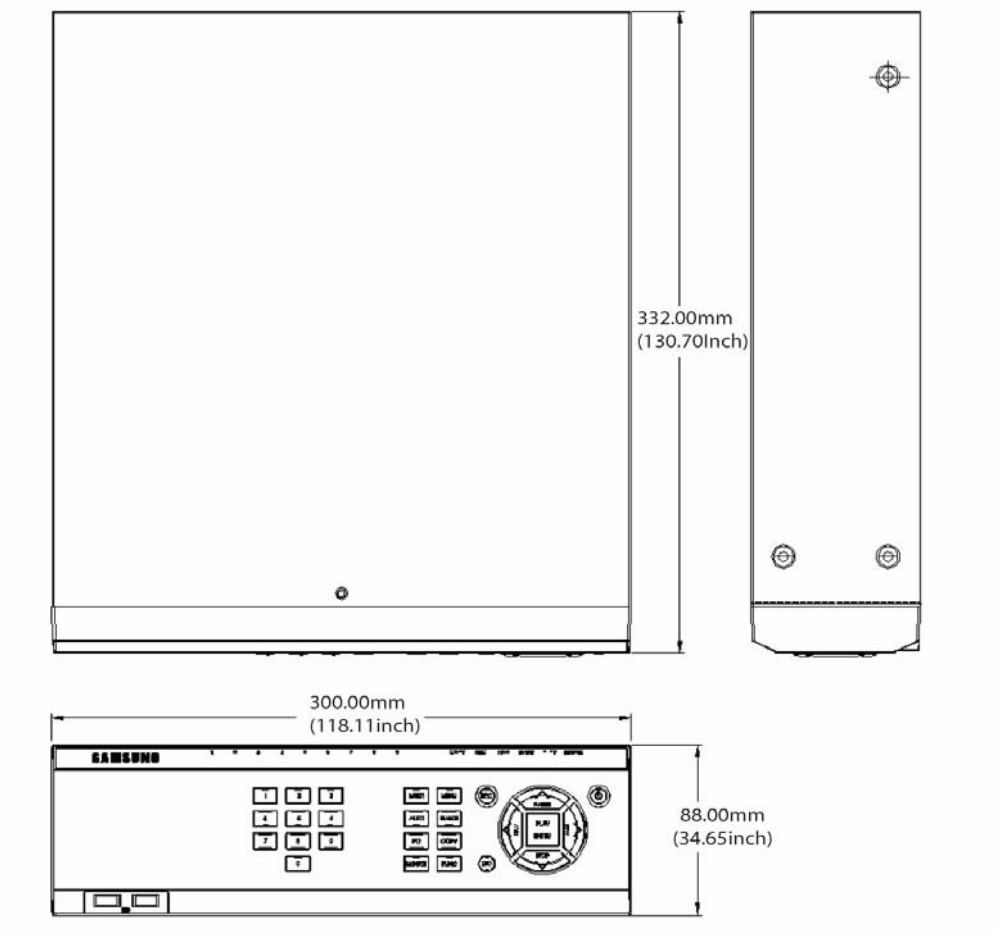
SVR-3200, SVR-1680, SVR-1660, SVR-1645



SVR-960


412.12mm
(162.25Inch)
465.40mm
(183.23inch)
445.00mm(175.19inch)
44.50mm
(17.51inch)
88.00mm
(34.65inch)

SVR-945



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